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ABSTRACT

This issue of the journal includes these papers on contrastive linguistics: "A Systematic Typological Contrast Between English and Portuguese" (Mary Aizawa Kato); "An Accuracy Order of English Sentential Complements for Native Speakers of Persian and Spanish" (Janet I. Anderson); "Remarks on 'Particle Movement' and 'Extraposition from NP' Rules: A Study in Contrastive Analysis" (Latif H. Ali); "On So Called 'Beheaded Noun Phrases' in English and Polish" (Roman Kalisz); "Certain Aspects of the Exclusively Predicative Use of Adjectives in English and Polish" (Barbara Dancygier); "How Do Proper Names Refer? Some Contrastive Evidence from English and Polish" (Barbara Kryk); "A Contrastive Study of One-Dimension Adjectives in English and Serbo-Croatian" (Boris Hlebec); "The Number of Genders in Polish" (Greville G. Corbett); "The Methods of Establishing the Productivity of Word Formation Rules" (Elzbieta Gorska); and "Polish and English Vowels: A Contact Situation" (Jerzy Zybert). Edmund Gussmann's review of the book "Phonology, Meaning, Morphology. On the Role of Semantic and Morphological Criteria in Phonological Analysis," by Solon Ohlander is also included. (MSE)

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REVIEW

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A SYSTEMATIC TYPOLOGICAL CONTRAST BETWEEN ENGLISH AND PORTUGUESE*

MARY AIZAWA KATO

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In an article called "Contrastive analysis revisited", Ruth Berman (1978: 216) suggests that instead of "the detailed listings of differences" advocated by descriptive linguists, modern contrastive linguistics should aim at explanation rather than mere description. In other words, the points to be contrasted should "be explained in some more general, motivated, and systematic way", rather than being stated in the kind of "sober taxonomy" advocated by Joos.

Berman claims that such analysis is "a valubale tool in deciding on the emphasis — both of presentation and practice of new materials in the target language".

In order to attain a level of explanation, she suggests a model of contrastive analysis to be used between languages that are not genetically related. The comparison should follow the parameters below:

"A. 1) obligatory similarities (universals)
2) chance (non-genetic) similarities
B. 3) genetic differences
4) systematic non-genetic differences
5) idyosynchratic differences"

Berman (1979 : 219).

I will prefer to use the concept of "typological difference" rather than that of "genetic difference" as sometimes we may not be aware of some remote genetic relationship between languages. And besides, English and Portuguese are both Indo-European languages and, as such, they must share many

* I am indebted to Leila Barbara and Kanavillil Rajagopalan for valuable comments on content and form.

genetic similarities, but on the other hand as they belong to different subclasses (the Germanic and the Romance languages), they would also classify as genetically non-related at this level of subclassification. The following parameters will therefore be used to contrast English and Portuguese:

A. 1. obligatory similarities (universals)
   2. typological similarities
   3. chance non-typological similarities
B. typological differences
   5. systematic non-typological differences
   6. idyosyncratic differences[1]

Both English and Portuguese are SVO languages and, as such, they share many similarities. Thus it is typical of SVO languages to have postnominal modifiers unlike SOV languages, like Japanese, which have only prenominal ones.[2] Contrast the following examples, in which the nuclear noun is stressed:

1. *Portuguese*	*English*	*Japanese*
casa sobre o monte	*house* on the hill	yama-no-uê-no *yé*
criança que chora	*child* that cries	naku *kodomo*
paredes pintadas de azul	*walls* painted blue	ao-de nute-aru *kabe*

However, as English retains some features of its former SOV structure within the noun phrase (NP), in many respects it resembles a typical SOV language rather than Portuguese. Observe that in the constructions in 2. the nucleus is to the left in Portuguese and to the right in English and Japanese. Moreover the pre-modifier in English and Japanese can be a noun, an adjective or a verb.

2. *Portuguese*	*English*	*Japanese*
mãe do João	John's *mother*	John-no *okaasan*
mesa redonda	round *table*	maarui *teiburu*
folhas caídas	fallen *leaves*	otiteru *happa*
porta da cozinha	kitchen *door*	okate-no *too*

With regard to certain types of adjectives (intensifiers), however, Portuguese can have prenominal modification like English and Japanese as can be observed in 3.

---

[1] This paper will not deal with 1. or 6. as the former falls within the domain of theoretical linguistics and the latter cannot have a systematic account.

[2] I am excluding the quantifiers, demonstratives and possessives, which have a delimitative function (determiners), rather than a qualifying one. It seems that the determiners are prenominal in both SVO and SOV languages.

3. *Portuguese* | *English* | *Japanese*

excelente *idéia* | excellent *idea* | subarashii *omoitsuku*
mero *acaso* | mere *chance* | tannaru *chansu*

But unlike English and Japanese, the most productive position for adjectives in Portuguese is the postnominal one.[3] Moreover, both English and Japanese allow recursive premodification of nouns by adjectives while Portuguese is constrained to have just one prenominal adjective. Observe in 4. that when a noun is recursively modified in Portuguese, either the adjectives occur in a series after the noun, the NP looking like a mirror-image pattern of English, or we have what a Brazilian linguist, Lemle (1979), has called an "adjectival sandwich".

4. *Portuguese*

descobertas científicas novas/ novas *descobertas* científicas

English | *Japanese*

new scientific *discoveries* | atarashii kagaku-no *hatsumei*

English also resembles Japanese in that not only adjectives, but also certain types of adjectival phrases, can appear in prenominal position. Portuguese on the other hand allows two-word premodifiers only when the noun is also followed by a long postmodifier, yielding again a "sandwich" sort of construction:

5. *Portuguese* | *English* | *Japanese*

interessantes *idéias* | interesting *ideas* | omoshiroi *kangae*
very interesting ideas | totemo omoshiroi *kangae*

idéias muito interessantes

Portuguese

a extremamente embaraçosa *situação* do Governador do Estado

English

the extremely embarassing *situation* of the State Governor

However, it is not *any* adjectival phrase that can modify a N prenominally

[3] There are only two classes of adjectives in Portuguese that can occupy prenominal position: the epithetic or attitudinal adjectives and the intensifying or adverbial adjectives like *mero* (mere), *apenas* (just, only), etc. The latter type has to obligatorily appear as prenominal, a fact that leads me to think that they could be better classified as a subtype of determiners.

in English as is the case with SOV languages: The starred forms are ungrammatical:

6. *English* — *Japanese*

*a taller than John *girl* — John yori-mo se-no takai *mussumê*

* a tired of women *actor* — John more than height tall girl
onna-ga akita *hayu*
woman tired actor

Notice though that in Japanese the word order of the modifying phrase is different from that of English. Being verb-final, the modifying phrase has to end up with a verb or an adjective as in a free sentence. What happens then is that in Japanese the modified noun is *immediately preceded by the nucleus of the modifying phrase*. English, on the other hand, being an SVO language, has the nuclear element of the modifying phrase appearing far from the modified noun. Observe that the two words to the right do not establish the modifying relationship that Japanese does:

6. *a taller than John girl — John yori se-no takai mussumê

_____ _____ John girl — _____ takai mussumê

(adj) (noun)

*a tired of women actor — onna-ga akita hayu

_____ women actor — _____ akita hayu

(verb) (noun)

Looking back at the previous cases where English behaved like an SOV language we will see that this situation of adjacency is satisfied. Thus when the modifying phrase consists of just one word, as this word will necessarily be the nucleus of the modifying phrase it will be adjacent to the modified noun. When the adjectival phrase consists of an adjective plus an intensifier, as the latter precedes the former, again the nucleus of the modifying phrase will be adjacent to the modified noun. Let us repeat in 7 the examples here to facilitate the recall:

7. John's *mother*
interesting *ideas*
(very) interesting *ideas*

Now the reason why the constructions in 1. have the modifier to the right of the noun becomes easy to explain. We had

8. the *house* on the hill

but not

*on the hill *house*

This is because *on the hill*, being a prepositional phrase, has as its nucleus the preposition *on*, which is not adjacent to *house*. In Japanese the adjacency condition is met because instead of a preposition we have a postposition.

9. yama-no uê-no *yé*
hill on house

The same explanation for prepositional phrase modifiers can be given to participial phrases of the type in 10.:

10. *trains* controlled by a computer
*controlled by a computer *trains*

Notice that *controlled* is the nucleus of the participial phrase and is not adjacent to the noun when in prenominal position. But English has an equivalent expression with a prenominal modifier:

11. computer controlled *train*

which meets the adjacency condition. *Controlled* in 11. is now next to the noun.

Bringing back the comparative construction in 6. which was shown to be disallowed as a prenominal modifier, we can also have an equivalent construction with prenominal modification:

12. *a taller than John *girl*
a taller *girl* than John

Observe that in the second form the adjacency principle is satisfied.

As English still maintains some properties of its former SOV structure, it has the possibility to adjust longer phrases to conform to the adjacent pattern of SOV languages. This adjustment can be said to occur in two different ways:

a) by reducing the longer phrase to a one-word constituent, which becomes necessarily the nucleus of the modifying phrase

13. *on the hill house — hill house
*of the kitchen door — kitchen door

b) by permuting the order of the elements within the modifying phrase or within the noun phrase:

14. *controlled by computer trains — computer-controlled trains
*a taller than John girl — a taller girl than John

It is worth pointing out that in the noun phrase *computer-controlled trains*

the reordering to meet the adjacency principle yields the same word order of an SOV language:

15. compiuta-de seigui-sareteru *kisha*

However, we find a counter-example to the adjacency principle in the NPs containing modifying phrases with *easy*, *hard*, *tough* and maybe a few more adjectives of the same class. Notice the long modifier in the following NPs, in which the nucleus of the modifying phrase is the *easy*-type adjective.[4]

16. an easy-to-take *laxative*
a tough-to-please *boss*

Unlike the other constructions which disallowed the distance between the nucleus of the modifier and the noun, here we have perfectly legal NPs though *easy* and *tough* are not adjacent to *laxative* and *boss*. Comparing the legal constructions with the illegal ones in 17,

17. *on the hill *house* easy-to-take *laxative*
*controlled by computer *trains* computer-controlled *trains*

it can be observed that while the combination *hill-house* and *computer-trains* have no grammatical relation (one does not strictly subcategorize or select the other), in the pairs *take-laxative* and *please-boss* there is a clear grammatical relationship (verb-object) as there is in the combination *controlled-train*. We could then reformulate the adjacency principle as follows:

> A complex constituent can be prenominal in English if the element adjacent to the noun holds with it a clear grammatical relation (grammatical relation here understood as a strict-subcategorization or selectional restriction).

But it should be pointed out that in the construction *easy-to-take-laxative* the word order within the NP is not the one expected in SOV languages:

18. nomi-yassui *gusuri*
take easy laxative

Though it was tempting to say that in prenominal modification English is governed by SOV word order, the examples with the *easy*-type adjectives show that there is no strict typological relationship.

Let us now examine a further constraint that can be observed in English and that does not operate in typical SOV languages like Japanese. In modifying constituents of the type seen in 19.,

19. (time-saving) gadgets
(computer-controlled) trains

the nouns that were originally the verb argument (*time* and *computer*) have

[4] The examples were taken from Nanni (1980).

to be generic in their interpretation and non-inflected in their form. This morpho-syntactic and semantic constraint of the noun correlates with the non-finite nature of the *-ed* and *-ing* verbal forms which in their turn correlate with the generic present tense form of sentences like 20.

20. The animal eats meat.

As in this sentence we have a generic predication we can have a corresponding complex nominal premodifier

21. The meat-eating animal

But a sentence with a non-generic predication like 22 does not have a corresponding prenominal modifier, but a postnominal sentential modifier

22. The animal eats this meat. The animal that eats this meat

Japanese, on the other hand, can have prenominal modifiers with finite verb forms and other syntactic markers that turn the modifying constituent into a non-generic sentence.

23. kono nikuwo taberu doobutsu
this meat eats animal (the animal that eats this meat)

Generic predications can be either prepositional or postpositional in English, but non-generic predications can be only postpositional. Moreover, English can have phrasal modifiers in prenominal position but not sentential ones like Japanese.

24. elephants that love music — music loving elephant
elephants that love this piece of music — ———————
coasts swept by winds — wind-swept coasts
coasts swept by this wind — ———————

Single pre-nominal modifiers are also generic and do not take inflection. When a noun modifier is intended to be non-generic it is realized as a determiner and not as an adjectival adjunct.

25. the skin's disease
skin disease

The absence of noun inflection is also observed in other kinds of complex premodifiers in English where the plural morpheme would be expected.[8]

[8] The absence of noun inflection seems to correlate with the non-finite forms of verbs that appear as noun premodifiers. It is interesting to observe that when a non-finite verb is converted into a postnominal modifier, the finite form is often required:
The crying baby — the baby that *is* crying
The two-year-old child — the child who *is* two *years* old

26. three year old child
    *three years old child
    two-dollar bill
    *two-dollars bill

The question that we may raise now is whether the adjacency principle and the generic meaning are independent constraints or whether they are correlated somehow. My view is that they have a logical correlation.

Notice that when we have a generic predication as in 20, the transitive construction can be turned into an intransitive construction through a lexical composition of the verb and the object or by using a synonymous intransitive adjective.

27. The animal eats meat.
    The animal is a meat eater.
    The animal is carnivorous.

Likewise the prenominal verbal compound is also intransitive in the same way that the corresponding adjective is intransitive

28. the meat eating animal
    the carnivorous animal

A non-generic predication, on the other hand, disallows such lexical synthetization as the object must be kept as an autonomous term, and therefore the structure will remain transitive.

Going back to constructions with *easy*-type adjectives, it should be pointed out that this kind of adjective allows intransitive contexts unlike other transitive adjectives, which cannot have the object of the infinitive removed from the object position. Compare:

29. It is easy to take *this laxative*. (transitive context).
    This laxative is easy to take. (intransitive context).

The sequence *easy-to-take*, if taken as a complex adjective,[4] is intransitive.

What we can say then is that all the constructions analysed up to now have intransitive (no complement) modifiers though from the semantic point of view the verbs and adjectives presuppose their semantic arguments.

The intransitive constraint explains also why certain verbs do not appear as prenominal modifiers:

30. *sent *letter* *brought *parcel*

As these verbs are ditransitive, even when the verb is passivized it still main-

[4] In her article on *easy*-type adjectives, Nanni claims that *easy to take* should be treated as a complex intransitive adjective, a thesis that supports our proposal.

tains or presupposes another complement. Some transitive verbs are more suitable premodifiers when they have an adjunct such as *well*

31. *the known author the well-known author = popular author

The acceptable construction is equivalent to an adjective that does not require an agentive complement whereas the verb *know* in the passive form sounds incomplete without an agent.

Going back to English postnominal modification we shall see that the same intransitivity constraint operates, but contrarywise. Thus while an intransitive complex modifier is illegal as a postnominal modifier, a transitive complex modifier yields a legal form:

32. *a woman very heavy a woman heavy with child
a very heavy woman *a heavy with child woman

Portuguese, on the other hand, allows both transitive and intransitive constructions to appear as postnominal modifiers while being subject to the same constraint as English regarding prenominal modifiers. Portuguese requires further, as we have already mentioned, that the noun be followed by some modifier to balance the heavy modifier to the left. See examples in 5.

Another type of complex postmodifier found in English is the sentential modifier, which can be either transitive or intransitive, and which in a typical SOV language is always prenominal.

33.

Portuguese	*English*	*Japanese*
a *pessoa* que encontrei na rua	the *fellow* I met on the street	miti de ata *kata*

To conclude, I would like to compare what has initially been proposed as parameters for a contrastive analysis (see II) with the summary charts III, IV and V.

III.

Position of modifier	postnominal					pronominal				
length of modifier	simple	complex			recursive	simple	complex			recursive
		phrase		S			phrase		S	
		−T	+T				−T	+T		
Portuguese	+	+	+	+	+	+*	+*	−	−	−
English	−	−	+	+	+*	+	+	−	−	+
Japanese	−	−	−	−	−	+	+	+	+	+

S (sentence) T (transitive) + (yes) +* (yes with restrictions) − (no)

Considering postnominal modification to be a feature of typical SVO languages, we can say that the *typological similarities* between English and

Portuguese are restricted to postnominal sentential and complex transitive constructions, as well as to recursive modification to the right of the noun. As for the restrictions marked for English recursive postnominal modification, it should be pointed out that stacking of intransitive modifying constructions do not yield legal forms however long they may turn out to be. Stacking of transitive constructions, on the other hand, always results in grammatical forms.

32. *Portuguese*	*English*
o homem alto arrogante	*the man tall arrogant
o homem morto sorrindo	*the man dead smiling
o homem de olhos azuis olhando para os pāssaros	the man with blue eyes looking at the birds

English can be observed to have some clear *typological differences* regarding SVO languages in that it disallows simple and complex intransitive modifiers to appear as postnominal modifiers. And it can also be observed, these are some of the features that English shares with SOV languages like Japanese.

As for prenominal modification English shares with Japanese the possibility of having recursive prenominal modification and of being less restricted than Portuguese with regard to the type of constituent that appears as premodifier. Portuguese, on the other hand, is heavily constrained, which makes us consider the positive features marked with a star as cases of *chance non-typological similarity*.

IV. Position of modifier	postnominal				prenominal			
Category of modifier	+Adjective		−Adjective		+Adjective		−Adjective	
	−T	+T	−T	+T	−T	+T	−T	+T
Portuguese	+	+	+	+	+	−	−	−
English	−	+	−	+	+	−	+	−
Japanese	−	−	−	−	+	+	+	+

In the foregoing chart it can be observed that when the category of the modifier is taken into account English shares with Portuguese and Japanese an equal number of features, when the modifier is postnominal. In prenominal position Portuguese and English are more alike when the modifier is an adjective and less so when the modifier is some other category.

Moreover, English shows a consistent and productive behaviour with regard to transitivity unlike Portuguese, which shows one dissonant feature in prenominal, non-adjective, intransitive constructions. This fact allows us to postulate the intransitivity constraint as a *systematic non-typological feature* of English.

V. Features of pre-nominal modifier	morphology		syntax			semantics	
	−Ninflection	+Ninflection	phrase		sentence	+generic	−generic
			−T	+T			
English	+	−	+	−	−	+	−
Japanese	−	+	+	+	+	+	+

The intransitivity constraint already considered to be a ***systematic non-typological*** syntactic feature of English can be seen in chart V to correlate with morphological and semantic features. Thus, noun inflection is absent in prenominal modifying structures in English (unlike Japanese) and the predication implicit in the modifying phrase is always generic and its form is always intransitive, restrictions not found in Japanese.

The foregoing analysis shows that the parameters proposed initially provide an adequate level of explanation for the study of a language from a contrastive viewpoint.

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AN ACCURACY ORDER OF ENGLISH SENTENTIAL COMPLEMENTS FOR NATIVE SPEAKERS OF PERSIAN AND SPANISH[1]

JANET I. ANDERSON

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This paper describes a study designed to investigate the accuracy order of English sentential complements for native speakers of Persian and Spanish learning English as a second language.[2] The purpose of the study was to determine the extent of native language influence on the learners' production of sentential complements in English.

Background

Common accuracy orders have been established on English grammatical morphemes for second language learners of different ages and language backgrounds. Dulay and Burt (1974) conducted a cross-sectional study on children of Spanish and Chinese language backgrounds which revealed a common accuracy order for 8 English grammatical morphemes. Bailey, Madden, and Krashen (1974) conducted a similar cross-sectional study on adult learners, and demonstrated the same accuracy order found in the Dulay and Burt study. Although other researchers (Cazden, Cancino, Rosansky and Schumann (1975)) have demonstrated in longitudinal studies that there is more

[1] This paper is a revised version of a paper read at the 1977 Los Angeles Second Language Research Forum.

[2] I am indebted to the students who participated in this study, to Rebecca Dixon, Director of the Intensive English Institute at the University of Illinois for her cooperation, and to Adelaine Stanley, Instructor, Roosevelt University for her assistance in recruiting students for the study and for administering the tests. I am also grateful to Mohamad Hajati and Olga Martinez for their translations.

variability in morpheme acquisition than these cross-sectional studies revealed, the evidence still suggests that the native language of the learner does not play a ***major*** role in morpheme acquisition.

But despite this similarity in morpheme accuracy for learners of different language backgrounds, the possibility of native language influence on the production of other grammatical structures needs to be extensively investigated before claims about universal tendencies in second language acquisition can be made. Studies are needed which investigate "higher order" grammatical structures in order to determine whether these might be more susceptible to native language transfer than morphemes.

One such "higher order" structure, sentential complementation, was investigated in an earlier study on a linguistically homogeneous group of learners — native speakers of Spanish (Anderson 1978). The findings indicated a high degree of concordance across the group of 180 subjects who participated in the study: the same accuracy order was observed in 95% of the cases. Although there was some evidence of native language interference, a contrastive analysis between Spanish and English did not prove to be an accurate predictor of the accuracy order found.

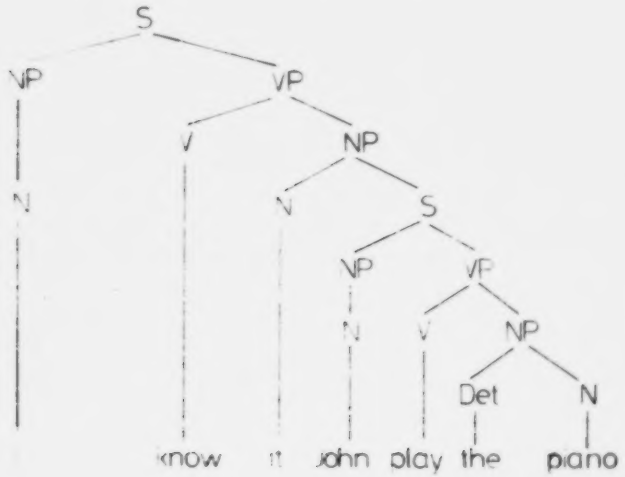
The present study was motivated by the need to extend that research to speakers of another language whose complementation system contrasted markedly with that of both English and Spanish. It was felt that Persian met this requirement. If the same accuracy order were found for learners from these two disparate language backgrounds, Persian and Spanish, the native language transfer position would more clearly be weakened than it was in the earlier study (Anderson 1978).

Sentential Complementation in English

A brief description of the sentential complements investigated in this study is in order. Although sentential complementation includes a variety of types of embedded sentences, the structures investigated here are limited to ***post-verbal finite clauses***, ***infinitives***, and ***gerunds***, all of which generative transformational grammarians view as being related grammatically (Rosenbaum (1967), Lakoff (1968).

Lakoff's (1968) analysis of sentential complementation was used as the basis for describing the six complement types investigated. In Lakoff's analysis, all of the various complements are derived from the same grammatical deep structure in which there is both a subject and a verb. The deep structure posited by Lakoff is presented in the example below.
Transformational rules change the deep structure to a finite complement:

I know (that) ***John plays the piano.***



The form the complement takes (whether it will be a finite complement, an infinitive, or a gerund) is determined by the verb in the matrix sentence; for example, the verb ***know***, and many other "mental activity" verbs, such as ***think*** and ***realize***, take the finite clause while verbs which imply some future or potential action take infinitive complements (***try***, ***want***, ***decide***).

The six surface structures investigated in this study are described below (the terms given to the surface structures are my own):

(1) ***Finite Clause***. This surface structure complement belongs to the class known as ***that*** complements and more closely resembles the grammatical deep structure than the others, because it has both a subject and a finite verb. (The complementizer ***that*** is optional in the surface structure).

Example: I know (***that***) ***he left***).

(2) ***Infinitive-NP***. This structure belongs to the class of complements which have undergone ***For-To Complementizer Placement***. The complement has a surface structure subject, which if pronominalized, is always in object form (e.g. ***me***, ***him***, ***us***). Depending on the matrix verb, it can appear in the surface structure with or without ***for***.

Example: I want (***for***) ***him to go***.

(3) ***Infinitive-NP (To Deletion)***. This structure also belongs to the class of complements which have undergone ***For-To Complementizer Placement***, but the structure also undergoes ***To-Deletion***, a rule which applies only to complements governed by a small set of matrix verbs. Examples of these verbs are ***let***, ***make*** and the verbs of perception, ***see*** and ***hear***.

Example: I let ***him go***.

(4) ***Infinitive-Equi***. Although this structure also undergoes ***For-To Complementizer Placement***, it does not contain a surface structure subject. This

is because it has undergone *Equi-NP Deletion*, a rule which deletes the subject of the embedded verb when it is co-referential with the subject of the matrix verb.

Example: I want *to go*.

(5) *Possessive-ing*. This structure has undergone the rule of *Possessive-ing Complementizer Placement* The complement always has a surface structure subject in possessive form, which if pronominalized appears as a possessive pronoun.

Example: I appreciate *his leaving*.

(6) *Gerund*. In addition to having undergone *Possessive-ing Complementizer Placement*, this structure also undergoes *Equi-NP Deletion*. (see Number 4 above). Thus, a subject does not appear in the surface structure of the complement.

Example: He quit *smoking*.

Contrastive Analysis

The Persian and Spanish counterparts to these six English complements were examined for structural differences.

In Persian, it was observed that the basic sentence word order in all of the complements contrasted with that of English. The Persian word order is subject-object-verb (SOV), while the English word order is subject-verb-object (SVO). In addition, all of the Persian complements except one, the *Finite Clause*, contrasted with the corresponding English forms.

In Spanish, it was observed that the basic sentence word order was similar to that of English. Both languages observe the SVO word order. However, all of the Spanish complements except two, the *Finite Clause* and *Infinitive-Equi*, contrasted with the corresponding English forms.

The Persian and Spanish complements were also compared with each other. In all six complements, the basic word order was different; in Spanish the word order is SVO and in Persian, the word order is SOV, as noted above. Three of the complements are similar in form (the *Finite Clause*, the *Infinitive-NP*, and the *Gerund*, but the other three complement forms contrast with each other (the *Infinitive-NP-To Deletion*, *Infinitive-Equi*, and *Possessive-ing*).

In view of the above comparisons, one might expect the Spanish group to perform better on the *Finite Clause* and *Infinitive-Equi* than on the remaining structures. The Persian group should also perform better on the *Finite Clause* than on the other complements. However, in view of the marked differences in word order, and the differences in the forms of three of the complement types between the Spanish and Persian groups, no other similarities in the accuracy orders are predicted.

Examples of the English complement types with their Spanish and Persian translations are presented below. (The Spanish sentences are written

in conventional Spanish orthography; the Persian sentences are written in phonemic notation, since Persian uses a different system of orthography).

1. ***Finite Clause***: I know that he bought a book.
   Spanish (finite clause):
   Sé que él compró un libro.
   (know-pres-1ps that he buy-past-3ps a book).
   Persian (finite clause):
   mæn midanæm ke u yek ketab xærd
   (I know-pres-1ps that he one book buy-past-3ps)

2. ***Infinitive-NP***: She wants him to help the students.
   Spanish (finite clause):
   Ella quiere que él ayude a los estudiantes
   (She want-pres-3ps that he help-subj-3ps to the students.
   Persian (finite clause):
   æz u mixahæd ke be šagerdan komæk konæd
   (from he want-pres-3ps that to students help make-subj-3ps)

3. ***Infinitive-NP (To Deletion)***: He let us leave school early.
   Spanish (Infinitive):
   Él nos deja salir de la escuela temprano
   (he us let-pres-3ps leave-inf from the school early)
   Persian (finite):
   u migozaræd ke madresera zud tærk konim
   (he allow-pres-3ps that school-accus early leave-subj. 1p. p.

4. ***Infinitive-Equi***: I want to buy the books.
   Spanish (Infinitive-Equi):
   Quiero comprar los libros
   (Want-pres-1ps buy-inf the books).
   Persian (Finite):
   Mixahæm an ketabhara bexæræm
   (Want-pres-1ps those books-accus. buy-subj.-1ps)

5. ***Possessive-ing***: I dislike their talking in class.
   Spanish (Finite):
   Me disgusta que hablen en
   (To me displease-pres-3ps that speak-subj-3p. pl. in
   la sala de lectura
   the room of lectura).
   Persian (Infinitive):
   æz hærf zadæn-e-anha dær kelas xošæm nemiayæd
   (from speak-inf-of-they in class pleasure-1ps neg-come-pres-3ps)

6. ***Gerund***: I enjoy playing the piano.

Spanish (Infinitive):

Disfruto	tocar	el	piano
(Enjoy-pres-1ps	play-inf	the	piano)

Persian (Infinitive):

æz	piano	zadæn	lezæzt	bordæm
(from	piano	play-inf	pleasure	bring-pres-1ps)

Method

Subjects. The individuals who participated in the study were 18 native speakers of Spanish and 18 native speakers of Persian, ranging in age from 18 to 33. They were recruited from ESL classes at the Intensive English Institute at the University of Illionois in Urbana, and at Roosevelt University in Chicago. In order to ensure a wide range of proficiencies, subjects were selected from three different levels of ESL classes. Generally, there was a higher proportion of Persians than Spanish speakers in the upper level classes, and a higher proportion of Spanish speakers in the lower level classes.

Materials. A written test was used which consisted of 6 sub-tests, 1 for each complement type. Each sub-test consisted of 4 translation and 4 multiple choice items (See Appendix). The test was administered in groups and the individuals were allowed 40 minutes in which to complete it.

Analysis of Data. Each item was graded either *correct* or *incorrect* and was given a value of 1 or 0 accordingly. In the translation test, spelling errors and article omission errors were allowed but errors in verb form were not accepted. After the tests were scored, group mean percentage scores were calculated for each complement sub-test for both the Spanish and Persian groups. In addition, errors were examined to determine their sources—whether they reflected native language transfer or whether they were common to both groups and could not be explained in light of the native language.

In addition, in order to determine if the two groups differed on the total score, a t-test was computed to compare these groups. In order to determine if an optimally weighted composite of the six complement types were discriminating between the two groups, a Hotelling T^2 was computed. Finally, an F statistic was computed to determine if the six complement types, when optimally weighted to form a total, discriminated between the two groups better than a total derived from simply adding the scores.

Results and Discussion

The accuracy orders for the six complements based on total sub-test scores were the same for both groups. The group mean percentage scores for each complement sub-test, translation and multiple choice combined, are presented in Table 1.

TABLE 1

Mean Percentage Scores of Complement Subtests

	Spanish	*Persian*
Finite-Clause	66.7	92.4
Infinitive-Equi	63.2	88.2
Infinitive-NP	43.8	81.3
Gerund	30.6	60.4
Infinitive-NP (To-Deletion)	20.1	40.3
Possessive-ing	13.9	37.5

The total score derived from equally weighing the six complement types discriminated between the two groups, favoring the Persians ($t=5.29$, df—34, $P<.005$). The significantly higher test scores for the Persian group are not surprising in view of the fact that there was a higher proportion of Persians in the upper level ESL classes used in the study. Hotelling's T^2 statistic was also significant ($F=3.28$, df=6,29, p .02) but there was no evidence that the optimum weights were better than equal weights ($F=1.17$, df 5,29, .1). This evidence suggests that the better performance of the Persians was about the same for the six complement types. In sum, the pattern of performance on the complement sub-test scores does not seem to be different between the two groups.

Except for one displacement, the accuracy order is identical to the order found in the earlier study (Anderson 1978). The *Finite Clause* was more difficult in the earlier study due to the more difficult test items used for that structure. Some of the test items contained compound verb tenses but in the present study most of the verb tenses were simple present or past.

Some of the predictions made by the contrastive analyses were borne out by the results: the *Finite* and *Infinitive-Equi* complements were the easiest for the Spanish group; the *Finite* complement was the easiest for the Persian group. However, Contrastive Analysis did not predict that both groups would demonstrate the same accuracy order for 5 out of the 6 structures. Nor did Contrastive Analysis predict that a complement would be more difficult when a surface structure subject was present. *Infinitive-NP* complements were more difficult than *Infinitive-Equi* complements. Similarly, *Possessive-ing* was more difficult than the *Gerund* which did not have a surface structure subject.

An examination of errors revealed that while some of the errors reflected native language structure, many of the errors did not. In the Persian data, for example, errors appeared which seemed to be translations from Persian:

I enjoy *from smoke.*
æz sigar-kešidæn (Persian)
from cigarette-smoke-inf (English translation)

(It is interesting to note, however, that there were no instances of Persian SOV word order in any of the English sentences translated. Apparently, the basic English word order is learned fairly early.)

The Spanish data also revealed instances of what appeared to be direct translations from the Spanish:

I want *that you go.*
que te vayas (Spanish)
that you go-subj. (English translation)

However, other types of errors appeared in both the Persian and Spanish data which could not be understood in light of native language structure. Examples of these errors are (1) the inflected infinitive (He wanted her to *washed* the dishes.), (2) incorrect deletion of the particle *to* (I want ø buy the books), and (3) the appearance of *that* in infinitive complements (She allowed us *that* to leave school).

It is of interest to note that some of the results reported above can also be found in data from children acquiring American English as their first language. Limber (1972) reported that the last complements to appear were the *gerunds*. He also reported the deletion of *to* in *infinitive* complements. These findings are in agreement with the findings in the present study. The *Gerund* and *Possessive-ing* were among the most difficult for both the Spanish and Persian groups. And there were many instances of incorrect deletion of *to* in infinitive complements.

Conclusions

The results of this study indicate that second language learners from two very different language backgrounds have similar difficulties in learning English sentential complements. Although there was some evidence of native language transfer, the fact that the order of difficulty was the same for both groups indicates that there may be universal tendencies in second language acquisition. The similarities noted between Limber's study (1972) on first language acquisition and the present one also support this view.

However, before strong claims can be made about a universal order of difficulty, further studies are needed which compare learners from a wider range of language backgrounds.[3] In particular, a study is needed which investigates a language group that makes different predictions about the difficulty of the *Finite* complement. If such a study revealed the same accuracy order, the universal order position would receive stronger support.

[3] One such study is now being conducted. Cheryl Andersen-Butoyi, a graduate student at U.C.L.A., is writing her Master's thesis on sentential complement accuracy for a linguistically heterogeneous group of second language learners. Her study is essentially a replication of the present study.

APPENDIX

COMPLEMENTATION TEST

Key to Part I: Translation

1. I know that he bought a book.
2. They tried to open the door.
3. She thought that I would buy a car.
4. I believe that he speaks English well.
5. He wanted her to wash the windows.
6. I enjoy smoking cigarettes.
7. He let the girl leave.
8. I ordered him to wash the dishes.
9. I enjoy playing the piano.
10. She wants him to help the students.
11. She finished writing the letter.
12. I dislike their talking in the classroom.
13. She allowed us to leave school early.
14. He made me go to church.
15. He appreciated your helping him.
16. I want to buy the books.
17. I appreciate your lending me your books.
18. He knew that I read the letter.
19. He stopped playing tennis.
20. He hopes to find the pictures.
21. I resent his doing that.
22. He let us leave school early.
23. I made the child cry.
24. You forgot to send the letters.

COMPLEMENTATION TEST

Part I: Translation
Spanish Form

1. Sé que él compró un libro.
2. Ellos trataron de abrir la puerta.
3. Ella pensaba que yo compraría un carro.
4. Creo que él habla bien el inglés.
5. Él quería que ella lavara los vidrios.
6. Disfruto fumar cigarillos.
7. Él dejó salir a la muchacha.
8. Le mandé que fregara los platos.
9. Disfruto tocar el piano.
10. Ella quiere que él ayude a los estudiantes.
11. Ella terminó de escribir la carta.

12. Me disgusta que hablen en la sala de lectura.
13. Ella nos permitió salir de la escuela.
14. Me hizo que fuera a la iglesia.
15. El te agradeció que lo ayudaras.
16. Quiero comprar los libros.
17. Yo le agradezco que me prestara sus libros.
18. El sabía que leí la carta.
19. El dejó de jugar al tenís.
20. El espera encontrar las fotos.
21. Resiento que él haga éso.
22. Él nos deja salir de la escuela temprano.
23. Hice llorar al niño.
24. Se te olvidó enviar las cartas.

COMPLEMENTATION TEST

Part I: Translation
Persian Form

جملات زیر را با انگلیسی ترجمه کنید :

1. من میدانم که او کتاب خرید.
2. آنها سعی کردند در را باز کنند.
3. او فکر میکرد که من کتاب ماشین می‌خرم.
4. فکر میکنم که او خوب انگلیسی حرف میزند.
5. لذا او خواست که پنجره ها را بشوید.
6. من از شنیدن این لذت میبرم.

7. گذاشت آن دختر بره (یعنی: پرید) .

8. یاد رفته بود که ظرف ها را بشوید .

9. از پیانو زدن لذت بردم (یعنی: خوشم آمد) .

10. از او میخواهد که به شاگردان کمک کند .

11. نوشتن نامه را تمام کرد .

12. از حرف زدن آنها در کلاس خوشم نمیآید .

13. بما اجازه داد که مدرسه را ترک کنیم .

14. مرا وادار کرد که به کلیسا بروم .

15. از کسی که به او کرده ممنون شد .

16. میخواهم آن کتاب را بخرم .

17. از قرض دادن کتابهایش به من ممنونم

18. او میداند که من نامه را خواندم .

19. بازی تنیس را ترک کرد .

20. امید وار است که عکس را پیدا کند .

21. از انکه این کار را میکند متنفرم .

22. او میگذارد که مدرسه را زود ترک کنیم .

23. من باعث شدم که بچه گریه بکند .

24. شما فراموش کردید نامه ها را بفرستید .

Directions: Draw a circle around the letter next to the correct answer.
Example:

Ford _____ the President of the United States

a. are
b. am
c. is
d. be

---

1. She finished _____ the letter.
   a. to write
   b. writing
   c. write
   d. wrote

2. I know _____ a book.
   a. him to buy
   b. he buying
   c. that he bought
   d. his buying

3. I resent _____ that.
   a. him to do
   b. his doing
   c. him do
   d. him to did
4. I want_____ the books.
   a. I buy
   b. buying
   c. buy
   d. to buy

Part II: Multiple Choice

5. I believe_____English well.
   a. him to speak
   b. his speaking
   c. that he speaks
   d. him speak
6. I resent_____in the classroom.
   a. their talking
   b. them to talk
   c. them to talked
   d. they talking
7. I enjoy_____ cigarettes.
   a. to smoke
   b. smoking
   c. I smoke
   d. smoked
8. He make_____to church.
   a. my going
   b. I go
   c. me go
   d. I went
9. She permitted_____ school.
   a. us leaving
   b. we left
   c. our leaving
   d. us to leave.
10. She thought _____a car.
    a. me to buy
    b. me buying
    c. that I would buy
    d. that I buying
11. He hopes _____the pictures.
    a. to find
    b. finding
    c. find
    d. found

12. I made _____ .
    a. the child cry
    b. cry the child
    c. crying the child
    d. the child to cry

13. He lets _____ school early.
    a. us to leave
    b. we left
    c. our leaving
    d. us leave

14. He let _____ .
    a. the girl to leave
    b. the girl leave
    c. to leave the girl
    d. leave the girl

15. You forgot _____ the letters.
    a. sending
    b. to send
    c. send
    d. sent

16. He wanted _____ the windows.
    a. she wash
    b. her washing
    c. her wash
    d. her to wash

17. I ordered _____ the dishes.
    a. he washed
    b. his washing
    c. him to wash
    d. he washing

18. He enjoys _____ the piano.
    a. to play
    b. playing
    c. he play
    d. from playing

19. They tried _____ the door.
    a. to open
    b. they opened
    c. opened
    d. open

20. She wants _____ the students.
    a. he help
    b. him helping to
    c. him to helping
    d. him to help

21. He knew _____ the letter.
    a. that I read
    b. I reading
    c. me to read
    d. my reading

22. I appreciated _____ .
    a. your him helping
    b. you to help him
    c. your helping him
    d. you to him helped

23. He quit _____ tennis.
    a. play
    b. to play
    c. playing
    d. played

24. I appreciate _____ your books.
    a. your lending me
    b. you to me lent
    c. your me lending
    d. you to lend me

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REMARKS ON "PARTICLE MOVEMENT" AND "EXTRAPOSITION FROM NP" RULES: A STUDY IN CONTRASTIVE ANALYSIS

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Contrastive analysis has long been used as a pedagogical tool for language teaching, but rarely for anything else. This study will employ contrastive analysis on a more theoretical level to examine the validity of a proposed linguistic universal. The remarks on which this paper is based are a brief study of the "Particle Movement" and "Extraposition from NP" rules, some of which have been discussed previously.[1] The results and implications concerning these rules will be the major center of the discussion of this paper in which it will be demonstrated how these two rules and others may apply to both English and Baghdad Arabic.

Intuitions of relatedness between sentences are constructed by deriving sets of related sentences from the same or similar underlying structures. Sentences constructed in Baghdad Arabic seem to be based on a close similarity in meaning and construction with those in English which, coincidentally narrows the scope of discussion to the points which this paper aims to account for.

A rule such as (1) can be postulated to convert a structure like (1.a) into (2.a).

1.a The man who broke the window went away.

2.a The man went away who broke the window.

The rule which converts (1.a) to (2.a) can be like this:

I. X — [NP S]$_{NP}$ — VP — 2 $\xrightarrow{\text{Opt}}$

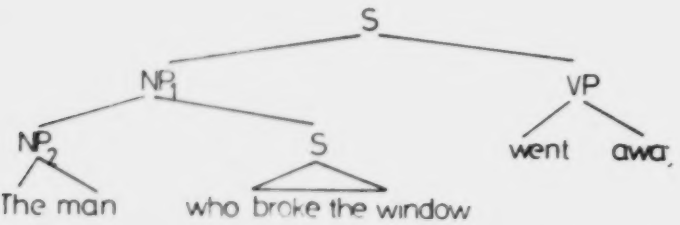
1 2 3 4 5

1 2 ø 4+3 5

[1] Cf. John Ross (1967), particularly chapters 1, 2 and 5.

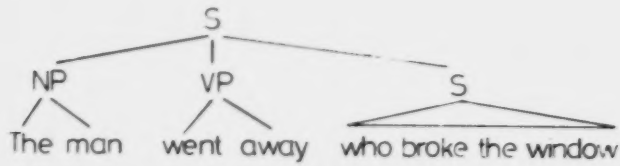
The underlying structure of (1.a) which is roughly shown in (2.b) may help illustrate the movement of *S* out of the NP which dominates it.

2.b.



When rule (1) applies to (1.a) it gives us the derived P-Marker (2.c).

2.c



If it were claimed that rule (I) applies to all natural languages, Baghdad Arabic would not allow such a rule.

3.a [irrijjāl illi kissər iš šibbač buqə'jəwə]
The man who broke the window stayed in.
3.b* [irrijjāl buqə jəwəilli kissər iš šibbač]
(The man stayed in who broke the window.)

The ungrammaticality of (3.b) is accounted for because in Baghdad Arabic an embedded *S* of this type can't be pulled out of NP if this NP immediately dominates that *S*. Thus, rule (I) is powerless when applied to Baghdad Arabic; this means that the grammar of Baghdad Arabic excludes such rules, as (I).

Now consider sentences (4.a) and (4.b):

4.a I sold the car which I bought two months ago to John.
4.b I sold the car to John which I bought two months ago.

To convert (4.a) to (4.b), Ross (1967 : 4) suggests the following rule:

II. $\underbrace{NP\ V\ [NP}\ -\ S]_{NP}\ -\ PP$

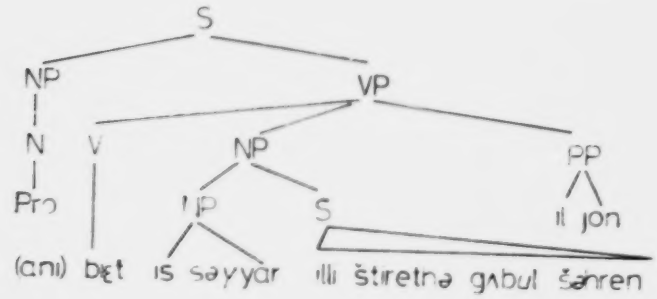
1	2	3	Opt.
1	ø	3+2	

For the same reason given above, rule (II) can not apply to Baghdad Arabic as is shown below:

5.a [biɛt is sə∂yyar∂ illi štireth∂ gʌbul šə∂hren l-jon]
I sold the car which I bought before months two to John.
I sold the car which I bought two months ago to John.
5.b [biɛt issə∂yyar∂ l-jon illi štiretha gʌbul šə∂hren]
(I sold the car to John which I bought before months two.)

The underlying structure of (5.a) is (5.c):

5.c



Ross, according to "the provision of the evaluation measure", combines rules (I) and (II) to yield rule (III):

III. $\begin{Bmatrix} ø \\ NP\ VP \end{Bmatrix}$ — [NP — S]$_{NP}$ — $\begin{Bmatrix} VP \\ PP \end{Bmatrix}$ $\xrightarrow{Opt.}$

1	1		1	1
1		2	3	4
1		2	ø	4+3

which converts (6.a) into (6.b) and (7.a) into (7.b):

6.a The man who you met went away.
6.b The man went away who you met.
7.a He let the boy who you know in.
7.b He let the boy in, who you know.

Since rule III is more general according to Ross, it is replaced by what is known as *Extraposition from NP rule.*[1]

IV. Extraposition from NP rule

X	[NP — S]	—	Y
	NP		
1	2	3	$\xrightarrow{Opt.}$
1	ø	3+2	

[1] See Ross (1967 : 3—4).

As long as rule (IV) doesn't apply to Baghdad Arabic, the claim that it is universal, in the meaning that it applies to all natural languages, is questionable. The converted sentence will be ungrammatical as long as an S can't be pulled out of the NP which dominates it, as shown in (3) and (5). Moreover, even in English, rule (IV) is too strong because it converts (8.a) into (8.b) which is ungrammatical.

8.a That a man came in who you sold your car to will never change my mind.

8.b* That a man came in will never change my mind who you sold your car to.

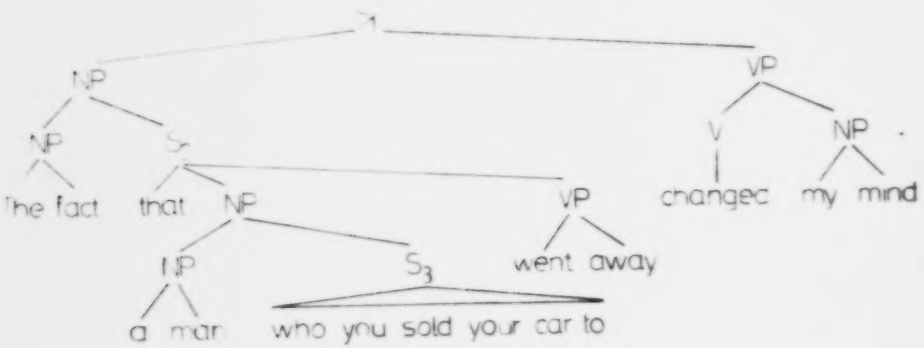
To prevent such a construction as (8.b), we have a restriction which can be stated as follows:

An extraposed *S* may not be pulled outside the *S* which dominates it and be directly dominated by the first *S*.

The above restriction can be illustrated by (9).

9.a The fact that a man who you sold your car to went away changed my mind.

9.b



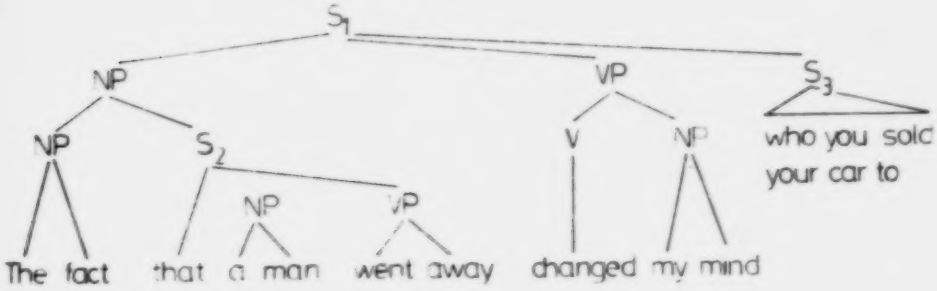
(9.b) Shows that in the case that S_3 is pulled up to the end of S_1, we get (10.a) as a result of this movement.

10.a The fact changed my mind that a man who you sold your car to went away.

But if we move S_3 up to the end of S_1, then the ungrammatical sentence (10.b) will be the result.

10.b* The fact that a man went away changed my mind who you sold your car to.

10.c*



Though the *Extraposition from NP* rule comes after *Particle Movement* in English, the latter can be applied to Baghdad Arabic only if the former does not apply, because of the restriction mentioned above, that the (extraposed) *S* cannot be moved from the whole constituent [NP S], while the particle has a (free) movement forward to be placed either before or after the constituent [NP S], as shown below:

11.a [irərijjāl illi aɛurfərāḥ barrə]
The man who I know went out.
11.b [barrə irrijjāl illi aɛurfə rāḥ]
(Out the man who I know went.)

but not

11.c* [irrijjāl rāḥ barrə illi aɛurfə]
The man went out who I know.

nor

11.d* [ir rijjāl rāḥ illi aɛurfə barrə]
(The man went who I know out.)

The rule which converts (11.a) into (11.b) could be formulated in (V):

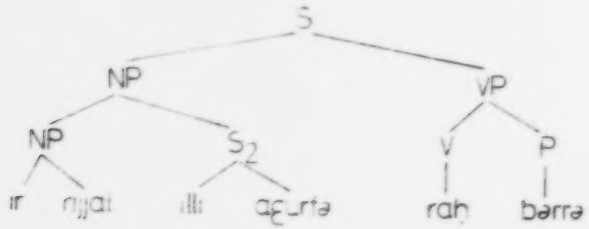
V. X [NP S] [V part. Y] Z
NP VP

Opt.

1 2 3 4 5 6
4+1 2 3 ø 5 6

The underlying structure of (11) can roughly be like (12):

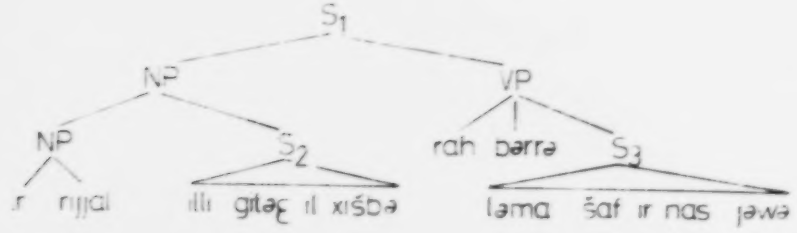
12.



The particle with intransitive verbs as in (11) has only backward movement in more complex structures like (13).

13.a [irrijjal illi gitɛ il xišbə raḥ bərrə lama šaf in nas jəwə]
The man who cut the log went out when he saw the people inside.

13.b



If the movement of the particle be backward to be placed at the end of the sentence, the derived structure (13.c) will be ungrammatical.

13.c* [ir rijjal illi gitɛ il xišbə rah ləma šaf il nas jəwə bərrə]
(The man who cut the log went when (he) saw the people inside out.)

With verb-particle like [raḥ bərrə], 'went out', not only the backward movement of the particle is blocked when followed by an *S* as in (13), but also when some other elements follow the particle,[3] as in (14).

14* irrijjəl illi gitɛ il xišbə raḥ {jucān / yirkuð} bərrə
(The man who cut the log went {hungry / running} out.

[3] I used "some other elements" because when the particle is followed by a preposition this movement is possible.

While in both structures (13.c) and (14) the particle may be moved forward to be placed before the first element of the sentence to give us the grammatical sentences (15.a) and (15.b).

15.a [bðrrð irrijjāl illi giṭðɛ il xišbð rāh lðma šāf in]
nas jðwð]
15.b [bðrrð ir rijjāl illi gitɔɛ il xišbð rāḥ juɛān]
(Out the man who cut the log went when he saw the people in.)

But (15.b) is ambiguous in two ways. It may have the reading which means that, "The man who was outside and who cut the log went hungry", or the reading already associated with the particle and its verb.

It is necessary to claim with cases like (15) that in Baghdad Arabic when the verb-particle is of the intransitive class, the backward movement of the particle is blocked if certain elements follow it. We have specified the condition only on intrasitive verbs because we can have sentences like (16.a),

16.a [il poṣṭðči illi ɛindðsðrrarð jab il ruzmð jðwð]
The mailman who has a car brought the parcel in.

which is derived from (16.b.)

16.b [il poṣṭðči illi ɛindðsðγγarð jab jðwð il ruzmð]
(The mailman who has a car brought in the parcel.)

Thus, the restriction could be more specific and at the same time fit both cases, transitive and intransitive verbs.

17. *Particle Movement* can be backward, unless the verb is intransitive, or forward to be before the subject of the main sentence.

Now returning to English and the rule of Particle Movement, we notice that English does not need a restriction like (17). One of the reasons for this is that English grammar doesn't contain a forward movement of the particle in structures of this type, because the verb prevents its particle from moving over to precede it, as shown below:

18.a He brought in the parcel which you wrapped.
18.b? In he brought the parcel which you wrapped.
18.c He brought the parcel in which you wrapped.
18.d He brought the parcel which you wrapped in.

If we assume that the particle movement in (18.b) is possible when the particle is stressed, then a sentence like (19.a)

19.a I looked over my word.

which can be converted, according to the Particle Movement rule, into

19.b I looked my word over.

can not have such a derived sentence even if the particle is stressed as the following one:

19.c* Over I looked my word.

To look for a reasonable statement for (18.b) and (19.c) may bring uncertainty about the word *'in'* in (18.a) and its converted sentence (18.b), whether 'in' is a particle or Adv. Loc., which is difficult to determine. This problem may be explained by postulating a rule such as VI

VI. X NP [V Part. $(\underset{NP}{NP}\ \underset{VP}{S})$] V

1 2 3 4 5 Opt. ⟩
1 0 3 4+2 5

To get (18.c) from (18.a) rule (VI) is too general to apply; therefore, there should at least be two movements involved in order to get (18.c). The first movement should be *Particle Movement* mentioned above (VI) to yield (18.d), then *Extraposition from NP* applies to give us (18.c).

Rule (VI) applies obligatorily after NP_2 in (18.d), or [NP S] in (VI), is pronominalized, as shown in the following sentences.

20.a He brought it in.

but not

20.b* He brought in it.

Similarly,

21.a He looked it over.
21.b* ?He looked over it.

It is interesting to note that when the object of the verb-particle is pronominalized, as mentioned above, the particle movement is blocked as shown in (20.b) and (21.b), which could also be true if one tries to examine the case in Baghdad Arabic.

22.a [il poṣṭači jabhə jəwə]
The mailman brought it in.
22.b* [il poṣṭəči jab jəwəhə]
(The mailman brought in it.)

If the word 'over' in (21.b) is considered not as a particle, then it is not a derivation from (21.a) and must be a different grammatical sentence; but if it is derived from (21.a), then it is ungrammatical.

To conclude these remarks, our attempt in this paper shows that in Baghdad Arabic any S dominated by NP cannot be pulled out to be extraposed, which opposes the case in English (IV); therefore a rule such as the one called *Extraposition from NP* should be excluded from a grammar like Baghdad Arabic or else we can have unaccepted structures exemplified by (3.b) and (5.b). Even if this rule applies to a language like English, one should be very careful in its application in order to avoid the ungrammatical converted sentence (8.b) from sentence (8.a). In other words, some restriction should be imposed on a rule like (IV).

Also we tried to show that a rule like *Particle Movement* (VI) which applies to both English and Baghdad Arabic should have restrictions which differ when it applies to a sole language of the two mentioned above. Baghdad Arabic allows both forward and backward movement as shown in (II) which is not the case in English. When both rules apply to English, *Particle Movement* should precede *Extraposition from NP*, as shown in (18.d) and (18.e) respectively).

The other point we tried to touch in this paper is that when a verb-particle is followed by a preposition, in English the movement of the particle as stated in rule (VI) will be blocked, but in Baghdad Arabic this preposition helps the particle to move forward without which this movement will only have the possibility of being moved backward. Thus in Baghdad Arabic we can optionally have both movements of the particle, and here also some restrictions should be imposed on the two movements.

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ON SO CALLED "BEHEADED NOUN PHRASES" IN ENGLISH AND POLISH[1]

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1

Postal (1969), Borkin (1971) and Lakoff (1977) discuss sentences like the following:

1. ***Chomsky*** takes up a foot on my bookshelf.
2. ***John*** is too small to satisfy Mary.[2]
3. ***Egypt*** refused to cooperate.

Postal analyzes the above sentences as being derived from underlying semantic representations like 4.

4. The government of Egypt refused to cooperate.

The "government deletion" transformation produces 3. 2 is arrived at by means of "genital deletion" transformation. Borkin refers to such deletions[3] as head deletions and to NPs remaining after such deletions as "beheaded NPs".

In this paper I am going to argue against deletion analysis of such NPs, on the basis of the impossibility of arriving at the correct semantic representa-

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[1] This is a slightly revised version of the paper presented at the 16th International Conference of Contrastive Linguistics at Bosukowo, Winter 1978. I wish to thank the participants of the conference, my disputant Paul Neubauer and Tadeusz Zabrocki for valuable suggestions.

[2] It does not follow from Borkin's analysis whether Mary in 2 constitutes a beheaded NP or not.

[3] There are many other deletion transformations if we follow Postal's analysis, i.e., stock deletion transformation as in "IBM is greatly overpriced".

tion in many cases. Based on the approach taken in this paper some remarks concerning the problem of lexicalization in general, will be presented.

Lexicalization is understood here as a process governing the relation existing between a lexical item and the elements of meaning of that lexical item. By elements of meaning of a lexical item we understand after Bobrow and Winograd (1977) and Lakoff (1977) a list of criterial properties which can be attributed to a given lexical item with a reservation that the list of properties depends on context in which a given lexical item occurs.

A short comparison of English and Polish NPs will be given in further sections of the paper.

2

There are syntactic arguments against head deletion transformation. 5a and especially 5b pose great difficulties for the analysis in terms of the above transformation.

5a. John is too poor to satisfy Mary.

b. Janek jest zbyt biedny, żeby zadowolić Marię.

The explication of the subject NP in 5b is probably as in 6

6. {Majątek / Stan materialny} Janka jest zbyt {mały / niski}, żeby zadowolić Marię.

The application of head deletion to the subject NP in 6 leads to unacceptable 7 unless other transformations of cosmetic type (see Krzeszowski 1979) are applied. The cosmetic transformations in the above case seem to be poorly motivated, difficult to formulate and lead to great complications of transformational apparatus.

7.* Janka jest zbyt niski, żeby zadowolić Marię.

The main difficulty although not the only one is the problem of the obtaining of the adjective *biedny* which does not exist in constructions like 8.

8.* {Majątek / Stan materialny} jest biedny.

3

Non-deletion explanation of such NPs is presented in Lakoff (1977). Lakoff presents his interpretation of 1 following the basic principles of Winograd and Bobrow's KRL where 1 is understood the way it should be (not surgeon's bizarre taste) because of our knowledge that Chomsky writes books and because of the possibility of association of this fact with the NP Chomsky.

9. Chomsky
   person
   :
   linguist
   :
   writes books
   :
   .

Lakoff states that there is no reason to provide a semantic representation in Postal's sense for such sentences and to thus claim that the head deletion transformation takes place.

It is proposed in the present paper that sentences like 1—3 exhibit generalizations or extensions of certain properties to the *source* of these properties i.e. the property associated with the NP Chomsky which is something like "physical instantiations of his writings", is extended to produce the NP Chomsky. John's penis is extended to John's body and then perhaps to full John with his body and soul in 2. It can be noted that when we have what Borkin calls beheading, the part of an NP which is present in the surface structure represents a source of a given property. The property was purportedly the head of an NP subsequently deleted by the beheading transformation. Certain regularities concerning the process of the extension can be observed.

(a) When a person is the carrier of the properties then the properties may be 'extended' to that person.

10. *I*'m parked in a no parking zone.
11. If *you* were a commercial car you could have parked here but since *you* are a private car I'll give you a ticket.
12. Are *you* a BART?

In 10 and 11 the property of 'I' and 'you' i.e., a car is extended to 'I' in 10 and to 'you' in 11.

(b) When no personal referent is 'involved' in a given NP and when a proper name is present then the properties are extended to the noun which is a proper name and is the source of the properties.

13. Syria has sent a note to Israel.
14. Lebanon has refused to cooperate.

(c) When neither a personal referent nor proper name referent is 'involved' for a given NP then the most general NP which can act as a source of properties becomes the goal of the extension.

15. This can is contaminated.
16. This book is full of nonsense.

A-c are to be taken as tendencies and not as strict rules. 17 and 18 constitute counterexamples to the claim presented above.

17. The car was moving fast.
18. The plane crashed fifty miles from Flagstaff.

It is *the car* which is the source of properties in 17. The properties may include the driver and the passengers among other things. 17 and 18 are examples of a different perspective or focus of attention than the one presented in (a). A perspective imposed on the properties and on their source may be decisive. However, such a situation seems to be less frequent and that can be seen in the case of 19.

19.a Pies bojowy ogólnowojskowy składa się z:
(a) obroży bojowej ogólnowojskowej
(b) psa właściwego
oraz (c) przewodnika
19b. An army dog consists of:
(a) an army collar
(b) a dog itself
(c) a master

19 is funny, at least its Polish version, because an unusual perspective is presented where a master is regarded as one of the properties of a dog and not vice versa.

4

The question arises concerning the mechanism of our extensions. Consider the NP *Cairo* in 20 and 21 and its properties.

20. *Cairo* has refused to cooperate.
21. *Cairo* is beautiful.
22. Cairo
a city
architecture
landscape
capital of Egypt
seat of Egyptian government
.....

Different properties are subjects to extensions in 20 and 21. In 20 less essential properties constitute the subject of the extension than in the case of 21. The understanding of sentences with NPs which exhibit extensions of less essential properties demands the cooperation of the context of experience, consituation, or linguistic context.

Borkin and Postal's analysis in terms of deletion of a head from the semantic representation where the head is explicated meets serious difficulties when more than one property constitutes the subject to the extension and when it is difficult to single out one property from a set closely related properties. In 23 it is difficult to decide which property of the NP Kicka is responsible for the fact that he is too strong for Rybicki. Is it Kicka's fist, forearms, arms, muscles, etc?

23a. *Kicka* jest za silny dla *Rybickiego*.
b. *Kicka* is too strong for *Rybicki*.

It seems that it is not possible to arrive at one correct semantic representation of 23 that would be plausible and that would be the proper input to the head deletion transformation.

Borkin herself finds it difficult to decide whether the occurrences of "Betty" in 24—29 (Borkin's 60—65) require the expanded representation (i.e., the explication of the heads of the occurrences of the noun Betty). She does not provide an answer. This difficulty pertains to the problem of providing an adequate semantic representation which does not seem to be possible, especially in 26—29.

24. *Betty* is Jewish.
25. *Betty* is attractive.
26. *Betty* knows judo.
27. Max thinks he is too small to satisfy *Betty*.
28. Max thinks he is too poor to satisfy *Betty*.
29. Max admires *Betty* and *Betty* admires Max.

The problem refers to lexicalization in general. Employing the extension analysis, we may provide an interpretation to the effect that there exists a hierarchy of the extension of properties depending on whether properties which are extended to its source are less salient or more essential. The extensions of the least obvious properties would constitute the top of our hierarchy. At the bottom of the hierarchy there would be cases in which the entire source with all its properties is present. The taxonomy of the continuum meets theoretical difficulties as other taxonomies. The one presented below is very tentative and it is not elaborated extensively.

I. Less salient properties constitute the subject of the extension (The majority of Borkin's beheaded NPs).
30. Are *you* a BART?
31. *Raymond Chandler* takes up a foot on my bookshelf.
32. *Monaco* decided to issue visas only to millionaires.
33. *John* is too small to satisfy Mary.

For 31 it is generally known that *Raymond Chandler* is a writer and that is why such a sentence is easily understood. However, with a little imagination we may accept 34 when we come to realize that one of the properties of *John Smith* is that he writes books.

34. *John Smith* takes up a foot on my bookshelf.

Context of experience definitely helps us to associate the property *writes books* with *Raymond Chandler* rather than with *John Smith*. Nevertheless, 34 may be understood correctly with a slightly bigger effort.

In 30 an usual property of being a driver of a bus which goes to Bay Area Rapid Transit station is extended to *you*. Here, the cooperation of context or consituation i.e., entering a bus in the San Francisco Bay Area seems to be indispensable for an association of that property with the noun representing the addressee.

In 27 John's property that is extended to its source is by no means accidental. However, the property is taboo in many conversations so the property that is extended to John seems to be 'less salient'. Therefore 27 seems to be a borderline case between groups I and II.

II. More essential properties constitute the subject of the extension (The majority of Borkin's doubtful cases).

35. *Ali* is too strong for Bonavena.
36. *Betty* is attractive.
37. *Ali* is heavier than Bonavena.
38. *John* hit Bill.
39. *Harry* pushed David.

35 seems to be a borderline case between groups I and II where the pugilistic properties of Ali and Bonavena would be less salient without the cooperation of the context of experience, however the ability to use fists, arms, muscles, etc. is not an accidental property of a human (or a kangaroo) since 40 is also an acceptable and easily comprehensible sentence.

40. *John* is too strong for Harry.

38 and 39 present the extension of body parts to their sources, though perhaps not only body parts are involved. In 37 the essential property of any human i.e., a body is extended to the sources *Ali* and *Bonavena*.

III. NPs where the entire source with all the properties is present (acting as Lakoff's gestalt).

41. *John* left.
42. *Peter Sellers* appeared yesterday on Midnight Special.

5

The extensions of less salient properties to their sources are generally less frequent in Polish than in English. It may come from pragmatic differences of some sort between the two languages of which I am not fully aware. A guess that speakers of Polish are generally more relaxed in everyday conversation and they act as if they had more time to express in greater detail what they actually mean to make the job of the addressee easier in deciphering a message, seems to be ad hoc, unscientific and perhaps misleading. However, it does not seem to be totally absurd since among some Polish social groups in particular situations which require quicker exchange of information the above phenomenon is more frequent (see the final examples of the paper).

Very many equivalent Polish sentences containing nouns exhibiting the extension of less salient properties to their sources are at least strange if not totally unacceptable.

43a. If *you* were a commercial car *you* could have parked here.
b. *Gdybyś (ty) był firmowym samochodem mógłbyś tu zaparkować. (The sentence is unacceptable in the sense equivalent to 43a).
44a. Are *you* a taxi?
b. *Czy jest *pan* taksówką? (unacceptable in the sense equivalent to 44a).
45a. *Chomsky* takes up a foot on my bookshelf.
b. ?*Chomsky* zabiera pół metra na mojej półce.
46a. *John* is too small to satisfy Mary.
b. *Jan* jest za mały, żeby zadowolić Marię.

It has to be noted that when we go down on our hierarchy the acceptability seems to increase e.g. 46b.

Equivalent Polish sentences of the English sentences of group II are fully acceptable.

47a. *Ali* is too strong for Bonavena.
b. *Ali* jest za silny dla Bonaveny.
48a. *Betty* is attractive.
b. *Betty* jest atrakcyjna.

6

There is a constraint in journalese Polish (and perhaps not only in journalese Polish) which I will call 'friends' constraint on the extension. It is all right to say 49—51 in journalese Polish.

49a. *Biały Dom* informuje (,że)
b. *The White House* informs (that)
50a. *Pekin* ostrzega (,że)
b. *Peking* warns (that)
51a. *Waszyngton* podaje (,że)
b. *Washington* reports (that)

However, 52a, 53a, and 54a are unacceptable.

52a. **Kreml* donosi (,że)...
b. *The Kremlin* reports (that)...
53a. **Praga* informuje (,że)...
b. *Prague* informs (that)...
54a. **Berlin* podaje (,że)...
b. *Berlin* announces (that)...

Belgrade, Hanoi and Ulan Bator are not clear cases since Hanoi and Ulan Bator are distant from Poland.

In the case of capitals and buildings where governments of the Polish allies and friends reside, the extension is blocked and we have sentences like 55 and 56 instead.

55a. Komitet Centralny Komunistycznej Partii Bułgarii poinformował (,że)...
b. The Central Committee of the Communist Party of Bulgaria informed (that)...
56a. Rząd Węgierskiej Republiki Ludowej ogłosił (,że)...
b. The government of the Hungarian People's Republic announced (that)...

In Borkin's terms the constraint would sound slightly different: "Thou shall not behead your friend". The pragmatics of the constraint is probably such that your friends deserve more attention and therefore the relevant properties have to be fully specified. In English no such constraint is present.

7

There exist some Polish sentences with NPs exhibiting the extensions of properties to their sources which have less acceptable English equivalents. The examples come from students' jargon and I owe them to Grażyna Itrych.

57a. Idziesz na Srokę? Nie, bo nie napisałam jeszcze Kalisza.
b. *Are you going $\left\{\begin{matrix}\text{to}\\\text{on}\end{matrix}\right\}$ Sroka? No, I haven't written Kalisz yet.

c. Are you going to Sroka's class? No, because I haven't written my assignment for Kalisz's class.

58a. Spałam na Kowalskim.

b. *I {slept / was sleeping} on Kowalski. (unacceptable in the sense relevant here)

c. I {was sleeping on / was bored with} Kowalski's class.

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CERTAIN ASPECTS OF THE EXCLUSIVELY PREDICATIVE USE OF ADJECTIVES IN ENGLISH AND POLISH

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The problem of "non-attributive" adjectives, i.e, the adjectives which occur exclusively in *be* predications (consider *The girl was sorry* v. **a sorry girl*), has often been seen in terms of the various conditions governing the syntactic 'deficiency' of this subclass of adjectives. Three assumptions which seem to underlie such an approach can apparently be formulated as follows:

1. Non-attribution of an adjective is a criterion powerful enough to allow us to speak of the class (or subclass) of exclusively predicative adjectives, to be treated in separation from the exclusively attributive ones and those appearing in both positions.
2. Non-attribution may result from various features of adjectives and enumeration of such features defines the class of non-attributive adjectives.
3. Non-attribution (as well as non-predication) must be treated as an irregularity; a "regular" adjective occurs in both positions and it is only for such adjectives that any consistent theory can be formulated.

These three assumptions will all be questioned in the present paper.

First of all, as numerous examples suggest, adjectives appear to be non-attributive in some contexts, and attributive in other situations. This concerns, predominantly, the cases of 'the conflict of homonyms' (see Bolinger 1967), i.e., the cases of ambiguous adjectives such that one of their senses allows only attributive occurrences, while the other only predicative ones (consider: *I am sorry* versus *a sorry sight*, *He is fond of music* versus *his fond hopes*, *The nurse was faint* versus *her faint voice*, various meanings of *certain* or *present*, etc.).

It can be argued that such examples appeal only to the most superficial understanding of the uses of adjectives, since the obvious presence of ambiguity could even allow us to distinguish, e.g., $sorry_1$ and $sorry_2$ in the lexicon. How-

ever, it seems that the restrictions on the attributive use of adjectives can be strengthened or weakened due to much less obvious factors, generally referred to as 'context'. Compare:

{I hate personal remarks / his remarks were personal, v. *a personal man / he was rather personal;
{Line A is parallel to line B / *a parallel to line B line, *a parallel line to line B, *a parallel line, v. parallel lines

Examples like these can certainly be analyzed in terms of such features of the nouns being modified as the human/non-human distinction or number, but on a more general scale we cannot offer any systematic description. What is more, even the apparently regular distinctions in terms of the conflict of homonyms can in some cases be neutralized to render adnominal occurrences of adjectives, as happens, for instance, with the uses of two adjectives: ***absent*** and ***present*** (*nieobecny* and *obecny*).

Absent — *nieobecny* has two meanings: 'not here' and 'as if not here, thinking of something not connected with the present situation'; in the former sense the adjective is usually found as a predicative modifier of [+ human] nouns, while in the latter as an attributive modifier of [— human] nouns, as in: ***two pupils were absent, dwaj uczniowie byli nieobecni*** v. ***he looked at me in an absent way, wodził dookoła nieobecnym spojrzeniem***. Due to the fact that the conflicting homonyms co-occur with different groups of nouns, it is sometimes possible to use 'not here' *absent* attributively, as in: ***your absent friends, twoi nieobecni przyjaciele***, although the other meaning will tend to be restricted to its attributive position: ****the way he looked at me was absent, *jego spojrzenie było nieobecne***. (Perhaps it is justified by the fact that this sense of ***absent*** is in some way metaphorically derived from the 'not here' sense, and not vice versa — it is thus in a way secondary, and the hearer will consider the primary meaning first.)

If we compare the above examples with the uses of ***present***, a totally different picture will emerge. First of all, *present* — *obecny* is encountered with [+human] nouns in both of its two main senses, although in different positions. When ***present*** means 'being here', it appears predicatively, as in ***All the pupils were present*** — ***Wszyscy uczniowie byli obecni***, and when it parallels the expression 'at present', it is attributive: ***mój obecny chłopak*** — ***my present boy-friend***. It should also be noted that with the latter sense of ***present*** [—human] nouns can also appear as heads: ***my present job, moja obecna praca***. The fact that both homonyms can co-occur with the same type of nouns strengthens their conflict to such an extent that the interchangeability of positions is excluded: the sentences ****my job is present, *moja praca jest obecna*** are unacceptable, while the phrases ***the present pupils, obecni uczniowie*** mean 'those who are now pupils', 'ci, którzy teraz są uczniami'. On

the other hand, however, in the case of ***present*** (but not in the case of ***absent***) English (but not Polish) allows for the use of phrases such as ***the pupils present***, where the adjective is not predicative, but retains the sense usually associated with the predication. The question whether 'postnominal' should be also understood as 'attributive' will be considered further on, but what we can claim now is that the conflict of homonyms can be "soothed" by various (albeit non-systematic) means.

Presumably, then, various mechanisms prevent adjectives from being ascribed once and for all to the subclass of non-attributive adjectives. The observation should lead to the conclusion that the subclass cannot be defined even by the simple listing of its members — the assumed elements of such a set often appear to be elements of other classes too. What we suggest, then, is that we rather define the syntactic behaviour of adjectives in terms of uses: in one of its uses an adjective appears in both positions, but in another use it may be restricted to only one.[1] We should also consider the possibility of seeing attribution and predication as two competing, although related forms (contrary to the view expressed in the Chomskyan transformational formula (1957) and developed by Smith (1961; 1964) and others). That is, instead of emphasizing the parallels between attribution and predication of adjectives, we should perhaps assume that they fulfil different functions and then try to establish why certain adjectives refuse to fulfil one of them.

The second question we intend to answer in the present paper is whether it is possible to enumerate the criteria that distinguish non-attributive adjectives from other adjectives. The task is very difficult due to the fact that the criteria mentioned so far are each of a different character. They are: temporary reference of an adjective, the presence of a complement and, marginally and only in reference to Polish — inflection (see, e.g., Petr 1968).

Temporariness of an adjective, as it is discussed by Bolinger (1967), is to be understood as its inability to denote features which would characterize the referent permanently. It is then attributed to adjectives which refer to certain non-permanent states of body and mind, as in, e.g., ***ready***, ***sure***, ***sorry***, ***upset***, ***jumpy***, ***late***, ***angry***, ***present***, ***handy***, ***ill***, ***well***, ***faint***, ***glad***, ***flush***, ***gotowy***, ***pewien***, ***zły***, ***chory***, etc. It has also been obesrved that such adjectives are often related to verbs and adverbs, which can be seen both within the same language and in translational equivalents: ***she was ablush — she blushed***, ***he is afraid — he fears***, ***jest chory — choruje***, ***jest zły — złości się***, ***I am sorry***

[1] We suggest the term "use" instead of "meaning", even though adjectives in their various uses may have different meanings, to stress the influence of the context. "Meaning" tends to be understood as inherent in lexical items, while "use" allows us to consider factors such as syntactic structure, style, the speaker's intention, etc.

— *przykro mi, I am hot — gorąco mi, he is asleep — śpi, it is ablaze — płonie*, etc.

The question which arises now is then whether the adjectives mentioned above can be said to be always temporary and never characterizing. As the examples discussed earlier may suggest, the answer is "no". First of all, adjectives can be ambiguous in such a way that one meaning is temporary and the other is not — consider, for instance, the example of *ill*, which is undoubtedly temporary and exclusively predicative in the sense of 'not well' — and characterizing and exclusively attributive in the sense of 'bad', as in *ill luck, ill health*, etc.

Secondly, it is not necessary for an adjective, especially in Polish, to be ambiguous in order to receive two interpretations — the temporary or the characterizing use can also be determined by the context or the speaker's intention. In other words, a basically temporary adjective can be made characterizing, as in: *Jestem zadowolona, że zmieniłeś zdanie — zadowoleni ludzie, Dlaczego jesteś taki przykry! — zachowałem tylko przykre wspomnienia, Jestem zmartwiona — masz zmartwioną minę*, etc.

Presumably, then, the temporariness/characterization opposition can be found in the adjective use and it is apparently paralleled by the predicative/attributive opposition, but adjectives can rarely be claimed to be unalterably temporary.

Apart from temporariness, another criterion of non-attribution of adjectives is that of complementation — which results from the general principle that an adjective cannot be preposed if there is any material to its right. In the present paper we shall concentrate on two types of complements — prepositional and infinitival.

In the discussion of prepositional complements we should mainly be concerned with the adjectives which take such complements obligatorily, because, according to the principle mentioned above, they should never appear attributively. Consider:

> We must consider all facts relative to this problem/*We must consider all relative facts to this problem/*We must consider all relative to this problem facts.
> Odpowiedział z surowością właściwą starym wojskowym/*Odpowiedział z właściwą surowością starym wojskowym/Odpowiedział z właściwą starym wojskowym surowością.

It seems that the main problem is whether the adjective can be separated from its complement, because the cases where the adjective-complement sequence is broken are rejected both in English and in Polish. Both languages allow the adjective together with the complement to appear postnominally — the link between the adjective and the complement is thus preserved

and the modifier-head collocation is also unambiguous — but it is only in Polish that the whole modifying sequence can be preposed.

Two questions arise in connection with the above examples: first, whether such adjectives are really never attributive (in the sense of appearing prenominally without the complement), and, secondly, whether the postnominal occurrences of adjectives with complements can be considered attributive.

It seems that the first question again has to be answered negatively, which undermines the criterion of complementation as decisive in defining the class of non-attributive adjectives. There are, apparently, several situations in which the complemented adjectives can appear alone and in front of the noun.

First of all, let us consider adjectives which denote some kind of relation holding between two or among several objects. In sentences with such adjectives the subject usually refers to one argument of the relation, while the complement to the other: *Your interpretation is incompatible with the general assumptions, The effort should be proportional to the effect, Twój wniosek jest równoznaczny z odrzuceniem projektu, Efekty są w tym przypadku niewspółmierne do kosztów.* If, however, both (or all) arguments are given in the subject, the preposition expressing the relation can be omitted, as in *Your income and mine are identical, Nasze zamiary są identyczne*, and, consequently, the adjective can be preposed: *commensurable effects, parallel lines, zdania równoważne, linie równoległe*, etc.

The complement can apparently also be deleted when its meaning is too general. For instance, complements cannot be removed from such phrases as *adept in photography, allergic to hay, uczulony na salicyl*, or *nieczuły na prośby*, but general or irrelevant complements can be disregarded quite freely:

adept (in everything you can think of): generally adept pupils,

allergic (no matter to what): allergic patients,

uczulony (nieważne na co): ludzie uczuleni (przechodzą specjalistyczne badania),

nieczuły (na nic): nieczuli rodzice.

Finally, a sufficiently clear context or re-structuring of the message can also allow for the reduction of the complement:

The building adjacent to the post-office is our laboratory/ Where is your laboratory? — It is in the adjacent building; These animals are native to India/These are native animals of India;

Uczniowie Kowalskiego są biegli w matematyce/Uczniowie Kowalskiego to biegli matematycy.

Presumably, then, the obligatoriness of complementation is not always strong enough to prevent adjectives supposedly inseparable from their complements from appearing attributively.

We should not, however, hasten to draw conclusions until we attempt

an interpretation of the fact that in the case of prepositionally complemented adjectives 'non-attributive' or 'non-prenominal' does not actually mean 'exclusively predicative' — because they can appear postnominally. Postnominal occurrences of adjectives in English are usually seen as exceptions or as reduced forms of predications, which retain their temporary interpretation (consider irregular uses such as *the City of London proper, the people involved, the only stars visible* or compounds like *court martial, body politic*, etc.).

As regards the postnominally complemented adjectives neither of the above qualifications is relevant: they are not exceptional and even if they are reduced predications, they are not temporary as a rule: phrases like *a book yellow with age* or *a country rich in oil* are definitely characterizing. What is more, some temporary adjectives with complements seem reluctant to appear post-nominally, they sound much better in predications. Consider, for example, *I was ready for the exam* v. *?the boy ready for the exam* or *He was eager for revenge* v. *?the man eager for revenge*. Besides, interestingly enough, these adjectives sound much better, and are undoubtedly temporary, when they are used non-restrictively: *The boy, ready for the examination, shut all his books, The man, eager for revenge, took out his gun.*

I would thus be inclined to say that temporariness or relationship with predications is irrelevant here, the essential factor being the inability or the ability to break modification and complement structures. Apparently, then, English requires that the adjective is separated neither from the noun being modified nor from the complement which modifies it, while Polish does not require the former. It can be claimed that the fact can be seen in terms similar to word order — modifying sequences are re-structured more freely in Polish than in English, because the overt markers of case relations in Polish allow for unambiguous interpretation of the structure of the NP.

It is also interesting to see how at least one of the above requirements can be violated without rendering an unacceptable phrase. Apparently, if the prepositional complement can be interpreted both as a modifier of the head noun and of its modifying adjective, the 'adjective+prepositional phrase' sequence can be broken. We can thus have *a place suitable for a picnic* and *a suitable place for a picnic*, but it is due to the fact that both *a suitable place* and *a place for a picnic*, as well as *suitable for a picnic* are all acceptable sequences. Still, however, English does not allow us to break the 'adjective-noun' collocation, hence the unacceptability of **a suitable for a picnic place*. In Polish, on the other hand, no restrictions hold in such a case: we can have *miejsce odpowiednie na majówkę, odpowiednie na majówkę miejsce* and *odpowiednie miejsce na majówkę*.

It also seems advisable to recall certain facts about postposition of adjectives in Polish. Pre- and post-nominal uses of adjectives in Polish are

perfectly regular, the former being usually reserved for the so called qualifying adjectives, the latter — for the classifying ones. The classifying adjectives are usually interpreted as non-temporary and, what is more, they are very rarely used predicatively. Finally, in emphatic, stylistically marked utterances post-nominal adjectives can be shifted to the front of the noun, and vice versa.

In view of all these facts it seems pointless to continue equating 'attributive' with 'prenominal', as it is characteristic of the English-speaking linguistic world. If, however, the 'adnominal' sense is accepted, we would no longer be able to treat adjectives with prepositional complements as non-attributive.

As regards infinitival complements of adjectives they cannot be seen as parallel to prepositional ones, since sentences containing them are usually considered to be derived structures in which the infinitive represents an embedded clause. However, leaving the problem of transformational derivation aside, we shall mention some of the conditions under which an adjective can be preposed, alone or with the complement. The observations can also be referred to the Polish counterparts of infinitival complements, which are usually represented by deverbal nouns, but seem to reveal similar features. (The conclusions were drawn on the basis of the classifications of ADJ+*to*+V sequences proposed by Vendler (1968) and Ostaszewska (1975)).

The first problem to be mentioned is the actual reference of the adjective:
1. If the adjective modifies the head noun in a permanent manner, the complement can be omitted and the adjective preposed (as in *her skin is smooth to touch — her smooth skin, jej skóra jest gładka w dotyku — gładka skóra*),
2. If the adjective functions as temporary, preposing is impossible if the same meaning is to be preserved, because the attributive occurrences would be interpreted as characterizing. Thus, even if the adjective is able to occur prenominally, there is no direct relationship between the full sentence and the reduced NP (consider *he is eager to go≠› ?an eager boy, on był skłonny pójść≠› *skłonny chłopiec, he was stupid to leave≠› a stupid boy*),
3. If the adjective modifies the verb, we can prepose the ADJ+*to*+V sequence as a whole (*an easy-to-please girl, łatwa do prania sukienka*), or, in English, the adjective alone (*an easy girl to please, *łatwa sukienka do prania*).

Another factor influencing the preposing in such cases is that of the character of the complement. If the infinitive refers to something habitually done with the object, it can be recoverably deleted, as in *an easy text to understand⇒an easy text, łatwy do zrozumienia tekst⇒łatwy tekst*. (Note that we can usually "recover" more than one habitual complement, depending on the context. That is, *an easy text* may also be easy *to read* or *to learn*); In all the cases of 'non-habitual' complements the deletion and preposing are unac-

ceptable (*an easy book to destroy, książka łatwa do zniszczenia* ≠› *an easy book, łatwa książka*); in other words, we cannot "recover" *to destroy* from *an easy book* and such a complement has to be present in the phrase. We can thus say that, in a sense, 'habitual' complements allow for permanent characterization interpretation of the adjective.

To sum up this part of the paper we must conclude that what seems to play the decisive role in restrictions on attribution is the temporary character of the feature being ascribed to the referent of a noun.

In view of the above statement we can undertake a pre-theoretical attempt to formulate the relation between attribution and predication not in purely transformational terms.

The introductory assumptions can be formulated as follows: there are basically two types of uses of adjectives — temporary and non-temporary; the former is basically restricted to predication, the latter may be expressed by both syntactic positions. Some adjectives can be only temporary (and consequently only predicative).

At this point Bolinger (1967) proposes the differentiation of two *be's* (temporary and non-temporary) to account for the fact that some predications render attributive occurrences of adjectives in NPs, while others do not.

Our proposal is different: in as much as temporariness is characteristic of predication, permanent characterization is characteristic of attribution, and in as much as some adjectives are only temporary, some adjectives can be only non-temporary. It is here suggested, then, that the only DS *be* predications with adjectives are temporary predications, while the non-temporary predications should contain characterizing structures, that is, NPs with attributive, non-temporary, characterizing adjectives. The predicative occurrences of characterizing adjectives would thus have to come from these NPs through deletion of their head nouns. The conditions, however, under which the deletion is to occur must be treated in a separate paper.

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HOW DO PROPER NAMES REFER? SOME CONTRASTIVE EVIDENCE FROM ENGLISH AND POLISH

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0. INTRODUCTION

Reference has always been considered a crucial concept in philosophical and linguistic investigations. The extreme views of identity theories, equating the meaning of an expression with its reference, were rendered untenable by numerous problems they had to face. To mean is not always to refer, as is the case with names of fictitious characters; besides identity of reference does not necessarily imply identity of meaning. Finally, the questions of opaque contexts and the lack of reference of logical connectives and other 'non-content' words remain unresolved, cf. Kempson (1977) and J. D. Fodor (1977).

Out of this confusion reference emerged as a fuzzy concept, though it is still claimed by, for example, J. D. Fodor (1977), that the paradigm examples for a referential theory of meaning are proper names, i.e. entities having reference but no meaning.

1. THE PROBLEM

In view of these facts, the aim of the present paper is to demonstrate that it is certain extra-linguistic factors which enter the traditionally ontological domain of onomastics, since proper names, contrary to the rules of logic, lose their uniquely referential function in natural language use. Examples from English and Polish will show that human names are often assigned secondary extensions referring not only to individuals but also to other entities. Thus, proper names gain the status of common names and are ambigu-

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ous between unique and non-unique interpretations.[1] Not surprisingly, these uses rarely coincide in the two languages as they are idiosyncratic of a given speech community and often become conventionalized. This observation confirms the claims of Krzeszowski (1974 : 32—6), Szwedek (1976 : 28) and others that contrastive analysis should account for the notion of reference and the ways it is rendered in the languages analysed.

It must be noted that, for the reasons of brevity, the scope of this paper will be confined to human proper names only. While other areas of onomastics will be left untouched, the present analysis might contribute to a contrastive study of proper names and stimulate further research in the field.[2]

2. A BIT OF HISTORY

As was mentioned above, the elegant solution to the problem of reference advocated by identity theories was refuted by philosophers investigating natural language. For Frege (1952 : 62) proper names express a sense simultaneously designating their reference which is presupposed. Though Frege solved the problem of fictitious characters by ascribing to them conventional denotation, he did realize that the two-fold structure of proper names is far from symmetrical. His example of *the evening star/the morning star* constitutes a case where identity of reference does not equal identity of sense, cf. also Lyons' comment (1977 : 199).

The question of reference has been investigated along these lines to result in a wide variety of approaches to definite NP's. Russell analysed what he calls 'denoting phrases' as uniquely existential propositions. However, if this condition of uniqueness fails, the proposition containing it is false. Thus, Russell abandons the conventional denotation of NP's in view of the fact that denoting phrases never have any meaning in themselves, but every verbally expressed proposition containing them has a meaning (1905 : 480). Strawson (1970), having rejected this approach, envisaged the referring function of expressions as conditioned by the distinction between a sentence, a use of a sentence, and an utterance of a sentence. An utterance with a referring expression may be true only if it has a referent; otherwise it is neither

[1] It was Jespersen (1954 : 438—439) who noticed that proper names, primarily used to denote individuals, have gained over the ages a metaphorical status, thus they may denote the characteristics of a given person, see, however, Grodziński's (1973 : 180) criticism of this approach. Compare also L. Zabrocki's comment on secondary appellativization of proper names which is, according to him, a very rare process.

[2] Problems of the syntactic characteristics of proper names will not be tackled here; cf., for example, Declerck (1980 : 7) for the account of the function of proper names in cleft sentences and relative clauses.

true nor false. For Searle (1970) it was the juxtaposition of describing vs. referring function of expressions that delineated the distinction between common and proper names. Similar dichotomy was recognized by L. Zabrocki (1980) who described the mechanisms of transferring appellative names into proper names. While the former describe a given object thus carrying its characteristics, the latter lose this property and only denote but are devoid of any meaning. Denoting is thus primary to meaning which narrows as the level of abstraction grows (1980 : 298). Likewise, Lyons (1977) noticed the process of moving of expressions from one category to another, but for him there were two functions of names, i.e., referential and vocative, which should be distinguished from their appellative uses (1977 : 216).

Gradually, this distinction has been blurred on pragmatic grounds. Quine (1960) and Katz (1977) ascribed the referential positions of singular terms entirely to their contexts and Linsky (1970) claimed that proper names neither have any meaning, nor do they uniquely refer. Finally, Kempson (1977 : 15) pointed out that since proper names lack meaning, their semantic account should differ from that of other words. Hence it is dubious if any solution to the problems of reference automatically provides a solution to the problem of meaning. As a result, the fuzziness of the concept of reference made it a vague, catch-all notion.

To clarify this vision, the following approach will be assumed as a starting point for our analysis. It has been realized that meaning and facts about the world determine reference. Assignment of meaning is treated as assigning a function to expressions. In the case of a referring phrase it will be a function, i.e. intension, from possible worlds to individuals, which are the extensions of the phrase in that world. The aim of the present analysis is, then, to check how the function of intension assigns extensions to human proper names in English and Polish.[3] My conjectures are as follows:

1. proper names are ambiguous between primary and secondary extensions, for some evidence from Polish, cf. Grodziński (1973 : 108—11);

2. in neither of these extensions do they uniquely refer, cf. Linsky (1970 : 77); Lyons (1977 : 184) and Quine (1960 : 130);

3. though proper names do not carry any meaning in their primary extension use (cf. J. Fodor (1977); Kempson (1977)), the function of secondary extensions is precisely to convey some additional, often conventionalized meaning.

This accords with Searle's opinion that a proper name may acquire a rigid

[3] Compare Polański's juxtaposition of translational semantics, studying intension, and referential semantics, dealing with extension. In view of this division, the present study can be classified as a contribution to referential semantics, though Polański admits that, being seemingly separate from one another, the two types of semantic analysis remain in close unition.

descriptive use without having the verbal form of a description (1960 : 161), but see Lyons' comment on the problem (1977 : 220). Likewise, McDowell (1980 : 150) noticed that a person who knows the sense of a name must have some beliefs about its bearer. It is these beliefs and connotations ascribed to proper names by their users that will be of interest here.

3. THE ANALYSIS

3.1. Extensions over persons

The chief function of proper names is to refer rather than to describe. Though proper names are never fully unique and thus carry some ambiguity, a sentence:

1. I can see Eve over there
1'. Widzę tam Ewę

can hardly be misinterpreted. It is the overall discourse situation, the context, and the information shared by the speaker and the hearer which usually disambiguate utterances with proper names in their primary function.

A problem arises, however, when a secondary extension, denoting various non-human entities of extra-linguistic reality, is assigned to a proper name, e.g.:

2. A: I like Eve
   B: What do you mean: your friend, the restaurant or the grain elevator?
2'. A: Lubię (podoba mi się) Ewa
   B: Co masz na myśli: twoją koleżankę, restaurację czy elewator?

Another secondary extension this female name gains in Polish stands for 'any woman', e.g.:

3. 8 marca zawsze pamiętam o kwiatku dla Ewy
3'. On March 8th I always remember about a flower for Eve

Although in this case the secondary extension reading is preferable, the primary extension one cannot be excluded. Imagine the following reaction to 3.:

4. Czy masz na myśli swoją żonę, czy mówisz ogólnie?
4'. Do you mean your wife or is it generally speaking?

The present example is highly culture-dependent and does not work in English. In some way, it could be compared to a secondary extension of a male name *Valentine* used to denote a sweetheart chosen or complimented on Saint Valentine's day. However, highly specific contexts in which it oc-

curs in English pose no problems with the interpretation of sentences like:

5. She is my new Valentine[4]
5'. Ona jest moją nową wybranką

Apparently, each of the above examples lacks an exact equivalent in the other language. Some more such instances of extensions of names over single persons are the following (note, that they are either first names occurring as single items or they become modified by an adjective or a family name):

6. *bobby* 'a policeman'
Tommy 'a British soldier'
Fritz, Jerry 'a German soldier in I and II World War, respectively'
uncle Sam 'an American'
6'. *Fryc* 'a German'[5]
Wania 'a Russian'
Pepik (*Pepiczek*) 'a Czech'
wuj Sam 'an American'

Thus, the only possible equivalence between English and Polish in this area seems to hold in the case of names denoting nationalities, the accepted convention being that a personal name most common to a given community denotes its typical representative. This conjecture is further supported by other examples of secondary extensions of family names over a given nationality, e.g.:

7. Keeping up with the Joneses

can be compared to Polish:

7'. Mieszkanie dla Kowalskich/Walczakowie stoją w kolejkach
'a flat for the Kowalskis'/The Walczaks are queueing'

Here the popular family names stand for a typical Englishman and a Pole, respectively. Note, that they enter colloquial language often as a mass media product (as in Polish) or acquire the status of an idiom (as in English). To sum up, all the above discussed extensions can be labelled extensional generalizations, i.e. instances of single names denoting a group or class of people or community as a whole.

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[4] The use of the proper name *Valentine* as a card or gift belongs to the extension over artifacts discussed in 3.4. below.

[5] Cf. Grodziński's analogous examples (1973 : 109) where *Hans* and *Fryc* are not shortened versions of some descriptions, like 'a man called Hans (Fryc)' but stand for a description 'a German soldier'.

3.2. Extensions over places

Probably the most common secondary extensions occur when personal names are used to designate places and institutions. In such cases it is public buildings, shops, restaurants, etc. that are referred to by names of their patrons, founders or owners.[6] This issue relates to what Borkin (1971) called beheaded NP's and Kalisz (1978) referred to as 'extensions of certain properties to a source of these properties'.

It follows from the examples below that extensions over places work analogously in English and Polish:

8. Let's go to St. Paul's
8′. Chodźmy do Św. Pawła
9. The best store to shop at is Abraham & Strauss
9′. Najlepiej się kupuje u Abrahama i Straussa
10. If you go to Cracow, you must dine at Wierzynek's
10′. Jeśli pojedziesz do Krakowa, musisz zjeść obiad u Wierzynka

As can be noticed, extensions of proper names over places are the least conventionalized. Their formation simply belongs to the mechanisms of grammar and the Genitive/Possessive markers usually present in both languages analysed exclude the possibility of ambiguous interpretations.

3.3. Extensions over time

Both in English and Polish first names may occur as referring to patrons' days, thus they require appropriate prepositions and pose no problems as to their referents, e.g.:[7]

11. Send me a postcard on St. Patrick's day
11′. Wyślij mi kartkę na Św. Patryka
12. Na Jana pójdziemy oglądać wianki na rzece
12′. On St. John's day we will go and watch the wreaths on the river

The possibility of ambiguous interpretations may arise when the name is used attributively, but it is still very low for a member of a given speech community who shares with it some common knowledge rooted in tradition, customs, etc. For example:

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[6] Grodziński (1973 : 108) analogously divided proper names into primary, denoting individuals, and secondary — the same names extended over objects created by man, such as buildings, ships, etc. Thus, according to him, proper names are necessarily ambiguous, since they refer to numerous and non-homogeneous designata.

[7] Note that it is the extra-linguistic factors like religious tradition, national customs, etc. that are responsible for the peculiarities of a given patron's day in England or Poland.

13. Leeks are my favourite St. David's dish
13'. Moim ulubionym ciastkiem są rogale marcińskie

Like in the case of extensions over places, when a time factor is involved, proper names refer fairly unambiguously, the degree of conventionalization being almost null.

3.4. Extensions over parts of body and artifacts

So far it has been shown that only extensions over persons gain a conventionalized status of fixed expressions, and it is worth seeing if any other extensions of this type can be found. They have been labelled extensional generalizations, whereas the following examples illustrate the opposite phenomenon, i.e. what I call here detachment. The term covers extension of human proper names over objects which have no relation to the original bearers of those names.[9] The arbitrary process of assigning labels to objects is thus highly idiosyncratic of a given language and only a couple of parallelisms could be found. Note, that both in English and in Polish they are euphemisms replacing taboo words, but different names are used:

14. *john* vs. *karolek* 'loo'
dick vs. *olek*, *wacek* 'penis'

Most examples do not, however, have any equivalents in the other language. Compare Polish *jasiek* 'beans; a small pillow; a day-flower', *baśka* 'a head', *maciek* 'a belly' to English *John Thomas*, *jerry* 'a night pot', *jack-in-the-box* 'a toy', *benny* 'benzedrine, a drug', *black Maria*, *paddy wagon* 'a police van carrying prisoners', *aunt Sally* 'a board with a picture without a head to take photos'. Apparently, detachment when performed in English, hardly ever has any exact equivalent in Polish and vice versa, unless a calque takes place, as in *bloody Mary*/*krwawa Mary*. It is my contention that such secondary extensions, having entered the language, become so conventionalized that they can be used unambiguously as legitimate homonyms of their primary extensions, cf. Grodziński (1973 : 111).

3.5. Extensions of the names of fictitious and historical characters

Numerous names of fictitious characters, notably those coming from classical literature and fairy tales, have gained throughout the history some more universal meaning. This seems to be a consequence of a natural process

[9] This process is, however, twofold. There are examples of proper names whose secondary extension is easily traceable to the original bearers of the names. Cf. Jespersen's examples such as *betty*, *derrick*, *jack* supporting our hypothesis, as opposed

of quoting literary works and mentioning their heroes in everyday language. Consequently, the names are used to ascribe features of a particular character to a person, object or situation. Most of these secondary extensions are common to both languages analysed, as they represent the world's cultural heritage, e.g.:

15. *a Cinderella/Kopciuszek* 'a person or organization that is not valued as much as he/it should be'[9]
a don Juan/don Juan 'a man well known for his love affairs', *don Quixote, Judas, a man Friday/Piętaszek, Romeo, a doubting Thomas/ /niewierny Tomasz*, etc.

Nevertheless, numerous extensions of the names of fictitious characters come from local, not-so-widely-known literature, hence are idiosyncratic of a given language only, e.g.:

16. English: *a Mrs. Grundy* 'a person who disapproves of people whose behaviour is not in accordance with morals' (from a character in *Speed the Plough* by T. Morton)
a Jekyll and Hyde 'a person who shows two opposing tendencies in his character' (from *Dr. Jekyll and Mr Hyde* by R. L. Stevenson)

16'. Polish: *sierotka Marysia* 'a poor, miserable child' (a character from a children's book by Konopnicka)
Koziołek Matołek 'someone dumb' (a young kid from a children's book by Makuszyński)
Dr Judym 'an altruist sacrificing his own life for others' (a character from St. Żeromski's novel)

Analogous mechanisms operate in the case of historical characters and famous people and this is where, for obvious reasons, English and Polish fully coincide. To give just a few examples:[10]

17. *a Judas, a Casanova, a Napoleon*
17'. *Judasz, Casanova, Napoleon*

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to historically traceable *pantaloon, hansom, boycott* (1954 : 438—439). As was pointed out to me by Dr. M. Nowakowski, some more members of the latter group can be found, e.g.: *sandwich, mackintosh, wellingtons, cardigan*, etc.

[9] *Kopciuszek* (and particularly *Kopciuch*) can have in Polish a pejorative meaning of a sloppy person.

[10] Grodziński (1973 : 110) approaches this problem as another aspect of the ambiguity of proper names. Hence, *Herkules* is distinct from *herkules*, though there holds a strong semantic link between these two words. This viewpoint is further supported by Lyons (1977 : 219).

3.6. Idioms with proper names

The most conventionalized secondary extensions occur in idioms and fixed expressions where personal names are used haphazardly and denote no individual or his characteristic features. Their original meaning, as well as that of other words in the idiom, is lost and does not contribute to the overall meaning of this idiom. Sometimes, however, it can be traced back, cf. Makkai (1975). Indeed, idioms with obvious historical sources often gain a cross-linguistic distribution, as was the case with the names of fictitious and historical characters, e.g.:

18. *Achilles' heel* 'a weak point in something that is otherwise without fault'
Abraham's bosom 'heaven'
18'. *Pięta Achillesa/łono Abrahama*

Apart from few instances of equivalence, idioms can hardly be subject to a cross-linguistic comparison. Since the vast area of idiom analysis is beyond the scope of this presentation, it is only the types of idioms with proper names that are of interest to us. A few idiomatic expressions are selected here from the English and Polish data to show how the conventionalization process deprives proper names (and other lexical items) of their primary meaning by ascribing to them secondary extensions.[11]

Roughly, idioms can be divided into four classes (cf. Makkai 1975: 21). The present analysis will focus on two types of idioms which, for the sake of brevity, will be labelled phrasal and sentential, respectively. The following examples illustrate the former type in the two languages analysed:

19. *Jack-of-all-trades* 'a handy man'
Davy Jones' locker 'the sea as the grave of dead men'
a nosey Parker 'someone attempting to find out about other people's private affairs'
a clever Dick/a smart Aleck 'a person who has a very high opinion of himself'
the real McCoy 'the true, real and original article'
19'. *głupi Jasio* (stupid Johnny) 'someone stupid'
nocny marek (a night Mark) 'a night bird'
mały Kazio (a little Kazio) 'a common, unimportant person'
na Adama (in Adam's way) 'naked'

Note, that while in English the set of phrasal idioms is far from complete, in Polish only a few examples of such expressions could be found.

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[11] See Makkai (1975) and Grodzinski (1973: 165) for evidence from English and Polish, respectively.

The observation gets further support from the analysis of sentential idioms, cf.:

20. *Take the Mickey* 'to pull one's leg'
On your Jack Jones 'on your own'
All my eye and Betty Martin 'complete nonsense'
It is even(s) Steven(s) 'a situation in which everyone has an equal chance'
Before one can say Jack Robinson 'very quickly'
I am all right, Jack 'I am very well'
Jack is as good as his master 'a servant is as good as his master'

20'. *Tłuc się jak Marek po piekle* 'to make noise'
Wyszedł jak Zabłocki na mydle 'a losing bargain'
Bredzi jak Piekarski na mękach 'talking nonsense'
Polegać jak na Zawiszy 'to be very reliable'
Huzia na Józia 'an unlucky person is always criticized'

4. CONCLUSIONS

The present paper has been an attempt to shed some light on the analysis of proper names in terms of their meaning and reference. On the basis of the above observations the following conclusions can be formulated:

1. The claim that proper names have reference but no meaning is a gross oversimplification if applied to natural language.

2. The referential function of human proper names is ambiguous between a variety of their possible extensions. It is, however, due to the overall discourse situation that an expression with such a name obtains an unambiguous, uniquely referring use.

3. Apart from the primary extensions of proper names denoting individuals, the creative language process assigns them multiple secondary extensions ranging over places, points of time, artifacts, and others.

4. Though proper names do not carry any meaning by themselves, their secondary extensions denote the relation holding between them and the original bearer of the name in question, the relation being determined by the type of extension:

a) extensions over places and time denote the owners, patrons, founders, etc. of the places and the patrons of the days, thus are most closely related to their primary extensions. This instance may be labelled 'spatio-temporal extension'.

b) extensions of proper names over groups of people are assigned randomly and are more detached from their original source. It is beyond the scope of this paper to account for such mechanisms, my conjecture being that it is

their popularity and common use that allow for what I have called 'extensional generalizations'.

c) in the case of fictitious and historical characters the secondary extensions preserve and thus denote the peculiar qualities of the original source (an instance of narrowing or specification).

d) the relation between the primary and secondary extensions is getting still weaker with naming artifacts and body parts; in fact there is no connection observable at the present stage of language development, though the assignment of reference might have some historical or folk-mythological justification. An analogous arbitrariness in the use of proper names holds true for idiomatic expressions. In such cases the secondary extension is detached from its source, thus will be labelled 'detachment'.

Summing up, as we proceed from spatio-temporal extension, extensional generalization and narrowing through detachment, the original primary extension meaning of proper names disappears. The secondary extension obtains a new reading and functions as a conventionalized expression and/or an idiom. Not surprisingly, the more conventionalized the expression in one language, the fewer equivalents it has in another language. Certain regularities occurring both in English and in Polish have indicated, however, the necessity of including such notions as reference, extension, intension, etc. in cross-linguistic studies.

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A CONTRASTIVE STUDY OF ONE-DIMENSION ADJECTIVES IN ENGLISH AND SERBO—CROATIAN

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0. The present article centers on differences and contrasts appearing in a lexico-semantic study of the so-called ONE-DIMENSION ADJECTIVES in Modern English (E) and Modern Serbo-Croatian (SC), that is, those commonly used adjectives whose primary meanings refer to extension in one dimension. The term will be specifically applied to the adjectives *long* and its formal correspondent in SC *dug* (*dugačak*)[1], *short* and its formal correspondent *kratak*, *broad/wide* and *širok*, *narrow* and *uzan* (*uzak*)[2], *high/tall* and *visok*, *low* and *nizak*, *deep* and *dubok*, *shallow* and *plitak*, *thick* and *debeo*, *thin* and *tanak*.

1.0. There are a lot of cases where both E and SC use a one-dimension adjective for only one member of a pair of opposites.[3] But there are also some where only E or SC have gaps in this respect. We will pay attention to these one by one, taking into consideration only pure cases, like *thick*: *thin* (not *deep*: *thin*), and formal correspondents, like *thick* — *debeo* (not *thick* — *širok*). Those cases where both E and SC omit the one-dimension adjective as an antonym in the same way, or where one language uses on one-dimension adjectives at all for meanings which are expressed by one-dimension adjectives in the other language will not be of interest here.

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[1] *Dug* and *dugačak* are interchangeable in concrete meanings of spatial extension, though the latter with less frequency. In other meanings only *dug* is used.

[2] *Uzak* and *uzan* would be fully synonymic variant forms if it were not for the tendency of *uzan* to be avoided in Croatia.

[3] The term OPPOSITE will be used to denote semantic oppositedness, and ANTONYM will be reserved for adjective forms which *usually* make oppositedness. Thus the opposite of *wide separation* is *slight separation*, but the antonym of *wide* is *narrow*.

1.1. The cases in point, with blanks for E are: *wide dress/boots/trousers*, as they cannot take *narrow* to express the corresponding opposite meaning, while SC accepts both *širok* and *uzan* with *haljina/cipele/pantalone* (*hlače*), which closely translate the collocations above.

Thin is not used as an opposite to *thick* when meaning 'very dark', as in *thick dark*, while both *debeo* and its antonym *tanak* are used (*debeo mrak*: *tanak mrak*).

The meaning 'intense' is expressed by *deep* with nouns denoting psychic phenomena; e.g. *deep gratitude/interest/attachment/consideration/study/anxiety/pleasure*. The opposite meaning is not expressed by *shallow*, and the only instance is the old-fashioned, metaphorical, phrase *shallow-hearted*. In SC both *dubok* and *plitak*, although the latter less frequently, combine with the equivalent nouns (*duboka/plitka zahvalnost/zainteresovanost/privrženost* etc.).

An example where it is the positive one-dimensional adjective that is lacking as an antonym to an adjective of the same class is *thin* meaning 'scanty, meager', e.g. *thin pittance/income/fortune*, where *thick* is not accepted. In SC collocations with the same meaning *debeo* appears besides *tanak*, as in *debela/tanka plata/imovina*.

1.2. The following cases of antonymic gaps have been attested in SC only.

The meaning 'dense' is expressed by *debeo*, although rarely (*debelo trnje* = *thick thorns*), but its antonym, *tanak*, does not occur with the meaning 'sparce'. Cf. *thick/thin bush/forest/congregation*.

When *kratak* means 'having little extent' (said of distance between objects), *dug* is not accepted, or is questionable as its opposite. Instead, *dalek* (lit. *far*) or *velik* (lit. *great*) are used. E.g. *kratak/*dug razmak/rastojanje/domet/doseg/domašaj*; *kratka/*duga daljina/udaljenost/razdaljina*; *kratko/? dugo odstojanje*. In E collocations containing the corresponding nouns *distance, interval, space, range, reach, way*, the adjectival form *long* is readily accepted as the opposite to *short*.

The other case in point is *kratkovid* (*kratkog vida*): **dugovid* (**dugog vida*), *dalekovid* = *shortsighted*: *long-sighted*, where the adjectives mean 'reaching near/far' (of visual perception).

2.0. Sometimes a synonym for a meaning of a one-dimension adjective can be found within its own field. A survey of such cases might reveal or suggest possible centers of synonymic attraction (in Ullmann's sense (1964: :149, 150)). Here we will concentrate our attention only on meanings which are synonymically expressed in a different way in E and SC. *Broad—wide* and *high — tall* have not been included, as their mutual relation is often too close to be informative. Admittedly, such synonyms need not always be of the same frequency in usage and need not belong to the same style or dialect.

2.1. Meanings of these synonyms which are specific for E are: 'having

insufficient quantity', e.g., *We are short of water=We are low on water*; 'reflecting insufficient psychic activity': *shallow smile=thin smile*; 'without sufficient funds': *He is short=He is thin* (U.S.); 'having great density': *high concentration=thick concentration*; 'containing a high percentage of some ingredient': *iron high in phosphorus=iron long in phosphorus* (U.S.); 'having little degree of numerosity': *thin assortment=narrow assortment*; 'having great/little numerical amount': *high price=long price* (U.S. slang); *low price=short price* (U.S. slang); 'having excessive deviation from the truth': *tall story=thick story*.

2.2. Meanings which appear in this field only in SC are: 'having great degree of numerosity', e.g., *širok izbor=debeo izbor* (*wide choice*); 'having great importance': *visok razlog=debeo razlog* (important reason); 'having great degree of intimacy': *usko prijateljstvo=debelo prijateljstvo* (*close friendship*); 'having great degree of vertical extension above the surface': *visok stas=dug stas* (*high stature*); 'having great temporal distance from the beginning to the end': *duboka starost=visoka starost* (*advanced old age*).

2.3. Some general conclusions might arise here, like the observation that E, especially American English, synonymically favors notions of numerosity and quantity, while SC shows indications of laying greater emphasis on human relations, importance, vertical extension, and end of a period. While E concentrates on little degree of numerosity, SC highlights great degree of numerosity.

3.0. In the following paragraph, due attention will be paid to those meanings which find formal expression in terms of one-dimension adjectives only in one of the two languages under consideration.

3.1.1. E has wider use of one-dimension adjectives to denote OBJECTIVE ORIENTATION[4] than SC has. Thus a squat body may be called *thick*, and objects or surfaces which are not elongated, *wide* and *broad*. In SC only inanimate objects of such shape may be referred to as *širok* (*širok list/ostrvo/*čovek=wide/broad leaf/island/man*). *Wide* with *man* may be not acceptable to all speakers of E, but examples have been found in American E, like *The muscle-bodied people look wide* (Berne (1971: 31)). Since *debeo* is used for *fat*, this may be a purely linguistic reason why this formal correspondent to *thick* does not share with it the meaning above.

Tall often denotes or suggests elongated shape, as in *a tall chimney* or *a tall glass*. To quote Funk and Wagnalls New Standard Dictionary of the English Language (1963), "That is *tall* whose height is greatly in excess of its breadth or diameter, and whose actual height is great for an object of its kind."

[4] OBJECTIVE ORIENTATION amounts to shape, i.e. comparison of dimensions within the object itself, and is to be distinguished from comparison with an implied standard for a class of objects.

On the other hand, *debeo*, unlike *thick*, may be used as a synonym for *krupan* (*big*), with an implied standard of comparison, i.e., 'bigger than the norm', as *debeo kamen* (*big stone*), or *debela suza* (*big tear*).

3.1.2. In E *long*, *broad*, and *high* may denote mere existence of a DIMENSION, i.e, no comparison being implied. Thus, *long/broad* (U.S.) *jump* refer to phenomena occurring in the horizontal direction of a movement, *high jump* is a jump occurring upwards above the reference point, while *long measure* is a measure referring to the extension in one direction. To express the same meaning, SC has to resort to prepositional phrases: (*skok*) *u dalj/u vis*, (*mera*) *za dužinu*.

3.1.3. Another field where E makes greater use of one-dimension adjectives than SC does, is that of PHENOMENA OCCURRING IN SOME DIRECTION. The following meanings of these adjectives occur in E only: *low* meaning 'occurring upwards in the direction of a place which has little distance above the reference point', like in *low kick/tide/ebb*; *shallow* meaning 'having little deviation from the horizontal', like *shallow climb/glide/dive*; *deep* meaning 'occurring far back' (*deep support fire*); *deep* and *shallow* 'occurring at a place far/near below the surface' with nouns such as *pain*, *therapy*, *swimming*; *high* meaning 'occurring from the direction of a place which is far above the reference point' (*high view from the top of a hill* or *high dive*); *wide* and *broad* meaning 'occurring in all or various directions' as with *irrigation*, *wandering*, *circulation* or in *broad daylight*. *Deep* as in *deep bow/drop/dive* refers to a phenomenon occurring downwards far from a reference point, while *dubok* may refer only to such movements from the position of a head when the body is upright (*dubok naklon*, but **dubok pad*/**duboko obrušavanje*).

3.1.4. In some cases POSITION is expressed in E by means of one-dimension adjectives, but not in SC. Thus, *high* in American E may refer to an object situated at a place which is far from the end of a region or near to the river source, *wide* may refer to an object used in sport or war not hitting the point aimed at (*wide arrow/ball/shot*). Similarly, *long* and *short* when denoting an object or surface used in sport situated at great/little horizontal distance from the reference point in combinations with nouns such as *hole*, *stop* or *field* are specifically E.

3.1.5. Some other ABSTRACT NOUNS freely collocate with *ton*, *hundred* and *weight* to denote a value above or under the specified measure: *deep* and *shallow* combine with abstract nouns like *distance*, *depth* ('extension from the front side towards the rear'), with a restriction of **deep depth* due to tautological reasons, *high* and *low* collocate with *angle*, *pitch* meaning 'approximation to the vertical', with *capacity*, *calibre* meaning 'degree of volume', and with *probability* (but cf. *tanka mogućnost*); *long* and *short* collocate with *extent*, *length* ('degree of extension') except the seemingly tautological **long length*; *long* collocates with *guess* meaning 'extending beyond what is known'; *narrow*

with ***angle***, ***grip***, ***clasp***, meaning 'degree of distance between entities'; and with ***escape*** meaning 'little degree of deviation from possibility not to happen'.

3.1.6. The notion of SUBSTANCE, especially that of substance consumed, also appears expressed by one-dimension adjectives more often in E than in SC.

Both ***low*** and ***thin*** may mean 'consisting of little (insufficient) quantity of nourishing elements' like in ***low tea*** (as contrasted with ***high tea***) /***diet***; ***thin soil/soup***, while in SC only ***tanak*** equals (***tanak čaj***, ***tanka zemlja*** etc.). In this sphere ***high*** and ***low*** may denote percentage of a substance (***high/low-carbon steel/-solids mud***; ***high/low brass***, ***iron high/low in phosphorus***), and synonymically in U.S., ***long*** and ***short***, (as in ***paint long/short in oil***, ***long/short varnish***). In American E ***long/short*** may also refer to substances having great fluidity (***long/short ink***), and the same pair of antonyms is used of liquor not containing liquid to dilute it. ***Long*** and ***short*** are also used with nouns denoting drink and substance respectively, as in ***long/short drink***, ***short allowance***. ***Short*** is used in E with less restriction to all objects or substances which have little cohesiveness (***short clay/cake***), while its formal correspondent ***kratak*** can refer only to dough in that sense.

Unlike ***debeo***, ***thick*** may mean 'not clear', as in *The river is thick*. *Tall* in the example *The beer is tall* may also be included here as it is connected with nouns meaning 'liquid'.

In non-standard E, *tall* may mean 'drugged' (U.S.), and ***high*** and ***thick*** 'intoxicated'. ***High*** is also used of food to denote smell due to putrefaction.

3.1.7. E is much more productive than SC in providing one-dimension adjective forms for meanings dealing with QUANTITY, POSSESSION, and PECUNIARY VALUE. Thus, it is impossible to use any of SC one-dimension adjectives when literally rendering the following phrases and sentences from E (each example represents a separate meaning): ***to be long on products***, ***market/man long in cotton***, ***take a long position in steel***, ***long oats*** (when holding stock in anticipation of a rise in price); ***to be short of wheat***, and ***short wheat*** when referring to ***short selling***, i.e., selling goods which are not yet possessed, while anticipating to obtain them later when they are cheaper; ***long stock***; ***Our money is getting short***; ***to be a cup too short***, ***to be in short supply***; ***The book is short of the title page*** (U.S. colloquial); ***The sum is two pounds short***; ***long/short drink*** (see also § 3.1.6.); ***Corn is high*** ('expensive'); ***Spring is high*** ('There is a great quantity in spring'); ***Winter is low*** ('There is little quantity in winter'); ***to be low in cash***; ***The trees are thick with foliage***; ***The beer is tall*** (see also § 3.1.6.); ***He was so extremely narrow*** ('miserly', in dialectal use).

3.1.8. The notion of NUMERICAL AMOUNT is expressed by one-dimension adjectives in the following collocations in E, but not in the formally equivalent SC collocations: ***This income is short***; ***high/low mileage*** (***mileage*** = 'use according to the number of spatial units'); ***thick*** ('consisting of a great

number of events') *action* or *moment* (U.S.); *thin* ('consisting of few parts') *forest*; *thin* ('occurring with too few participants') *attendance* or *month*.

3.1.9. INTENSITY is also one of the notions which are better exploited in the field of one-dimension adjectives in E. This is proved by collocations *tall growing/explaining* (U.S.); *low voice*; *deep/thin blue*; *high feelings/wind*; *long look* (U.S.), none of which can be literally rendered as an acceptable SC collocation.

Similarly, while *thin voice* may denote a voice with little intensity and high pitch, its formal correspondent *tanak* refers to high pitch only.

3.1.10. In a wide area of meanings covered by one label "BEHAVIOR", E makes extensive use of its one-dimension adjectives. Thus *deep* as in *deep demand/measure* means 'having great effectiveness in behavior'; *short temper/ /behavior* is that having quick and angry reaction; *broad comedy* is such where actors rant. *Broad* may be used of a man or a phenomenon that is outspoken or effusive in communication (*broad hint/speech/mirth*), *He is thick with that family* is slang for *He is intimate with that family*. *High* in such collocations as *high-minded* and *high-brow* means 'haughty'.

Often the meaning may be more specifically subsumed under the heading 'violating standard of social behavior', especially 'in communication', like: *tall story* (deviation from the truth), *tall words* (boasting), *deep vice* (deviation from the good), *deep game/one/boy* ('cunning, sly'). *Broad conversation* is an unrefined one. *Wide man* is a person deviating excessively from the standard of morality; *wide assertion/price* is an immoderate one. *To be short of one's expectations* means to fail to behave as expected. *Broad accent* is an accent showing great deviation from the standard pronunciation; a *service* which is *thick* (slang usage) is an unsatisfactory one. *It's a bit thick* is a colloquial expression as a response to an outrageous action.

3.1.11. One-dimension adjectives in E are used to express various FEELINGS in a few cases where SC equivalents are not. Thus, *I feel low*, *He is high* ('keen') *on movies* (U.S. slang), *He is thick* ('angry', U.S. slang).

Maybe *low* meaning 'ill', 'lying dead' and 'not having extreme views' belongs here, as well as *high* as the opposite to the last meaning (like *high Tory*, *High Church*). Some cases mentioned under "behavior" may be included here as well.

3.1.12. Various meanings which can be classified as PERIOD find abundant expression by E adjectives in question. Thus, *Don't be long about it*; *short* used in U.S. slang for a man near his release from prison, and business terms denoting transaction or paying in relatively distant/near future: *long/short bill/credit*. See also business terms with *long/short* in § 3.1.7., which also refer to futurity. While *long/short*, as in *May that day be long in coming* and *in the long/short term* or *The thoughts of youth are long*, or *He takes short views*, refer to the future and are attached to the nouns in the general sense of 'period'

or 'mental phenomenon referring to event/s', *dug/kratak* may be attached only to nouns already denoting futurity or mental phenomena referring to event/s in futurity, like *dug/kratak rok=long/short term*; *To su, istina, sve malo duži planovi=To tell the truth, these are all somewhat longer plans.*

3.1.13. In the sphere of SENSORY PERCEPTIONS *deep* is used to denote objects which produce deep sounds or great resonance, like *deep-chested laugh* and *deep organ-pipe*, and *shallow* and *thin* to denote sounds of insufficient resonance. *Thin*, as in *thin chords*, refers to objects having insufficient resonance, and also, in non-standard usage, may refer to sounds having insufficient fidelity of reproduction. *Thick* may mean 'not acute, dull', as in *It gave him a thick sensation in his throat* or 'having little acoustic clarity', as in *His voice sounded thick because of his cold.* Lack of light or sound may be expressed in E by means of *thick* (*thick twilight/silence*), while the SC formal equivalent, *debeo*, as well as its opposite *tanak*, are used only for the lack of light (*debela hladovina=thick shade*; *tanak mrak=slight dark*).

3.1.14. It can also be observed that nouns containing some notion of TRANSPORT are used in E more freely than in SC. *High* in a number of collocations, like *highway, high road/street/seas*; *short* ('choppy') *sea*; *short* ('not made or trained efficaciously') *ship* or *horse*; *deep* ('covered with thick layer') *road* (U.S.).

3.1.15. Other meanings which do not find expression in SC one-dimension adjectives are as follows: 'containing short straw in high fermentation', as *short dung/manure*; 'having great neglect of details', as *broad conclusion/outline*; 'differing much', as *wide languages*; 'venerally infected' as *The prostitute was high* (slang); 'sexually mature and active', as *high males of the species*; 'having favorable quality', as *tall dinner* or *They estimated him very tall*, which is U.S. non-standard usage; 'having a great décolleté', as in *The dress she wore was outrageously low*; 'thickly covered', as *the table thick with dust*; 'having little durability' (of suffering), as *My patience is wearing thin.*

3.2. The number of meanings which are expressed only in terms of SC one-dimension adjectives is much smaller. These cases may be sorted out under titles of 'lack of achievement', 'lack of importance', and 'human relations'.

3.2.1. Thus in *Golman je bio kratak=The goalkeeper was unsuccessful*, or *kratak dokaz=ineffective proof*, *kratak* denotes failure to achieve an aim.

3.2.2. In the following examples *visok*, *nizak*, and *debeo* share a general meaning of importance: *On je visok u njenim očima=He is respectable in her view* (lit. *eyes*); in *debelo iskustvo* and *debeo korak=important experience/step*; *debela pogreška=serious mistake*; *debele batine=sound beating*; *debela svadja =heavy row, quarrel*, with a common meaning of *debeo* 'having great negative effect'; in *viši* and *niži oficir=high-* and *low-ranking officer* (but not **high(er)*

and **low(er) officer*); in *visok nalog*=*high-authority order* or *visoka zakletva*=*solemn vow*.

3.2.3. *Širok*, *debeo*, and *uzan* refer to concern for other people in: *široka duša*=*generous soul* or *Majke su široke*=*Mothers are generous*; *debela veza*=*influential connection*; *usko prijateljstvo*=*close friendship*.

3.2.4. In addition to this, *širi* and *uži* (comparatives of *širok* and *uzan*) are used absolutely, to categorize a more and less inclusive part of an area or a functional group of people, as in *širi/uži centar*=*outer/immediate center*; *šire/uže rukovodstvo*=*general/central management*; *šira/uža porodica*=*remote/immediate family*, *uža specijalizacija*=*specialized training*.

3.2.5. Another meaning which is specific for SC one-dimension adjectives is 'fitting close', like in *uska suknja*=*tight skirt* (as in § 1.1.).

3.2.6. There are also some meanings containing the notion of numerosity which are specific for SC: *kratak* ('supplying information with few symbols'), like *kratak opis/sadržaj*=*concise description*; *summary*; *dug* meaning 'many' with nouns denoting sequence of temporal units (*dugi vekovi* =*many centuries*).

Therefore one can conclude that in this sphere SC takes a little more care of the notions 'sequence of symbols' and 'sequence of temporal units', while E pays attention to use (exploitation), density and frequency (see § 3.1.8.).

3.2.7. The only counterexample to the tendency of E in the sphere of the notion of substance mentioned in § 3.1.6., i.e., the cases where E lacks a unidimensional equivalent corresponding to the SC one-dimension adjective, are the following, rather infrequent uses: *tanak*, referring to an insufficient quantity of water (*Reka je tanka*=*The river has little water*, lit. *The river is thin*) and *debeo*, referring to periods of richness (*Pamtim ja debele godine*=*I remember rich years*).

3.3. It is fairly obvious why E makes use of *deep/shallow* meaning 'situated at a place which is far/not far from home plate in baseball' (like in *deep/shallow center/field*), while SC knows of no such use of its formal equivalents. Here it is cultural difference (interest in a phenomenon vs. lack of interest in a phenomenon) that is responsible for interlinguistic incongruity.

Proverbial Anglo-Saxon (or at least British) interest in weather and betting may also have left traces in the specifically English usage of *thick* as in *It was thick* ('foggy') *this morning*, or *high* as in *high game* or *high play* (i.e. 'game' or 'play in which the stake is high').

Other differences between E and SC dealt with in this paper are more subtle, but there is the hope that some or even most of them will eventually be explained on the same cultural and anthropological grounds. This is not to be expected of all, as some will be purely linguistically grounded, like the one mentioned in § 3.1.1.

4.0. We will also take a look at some differences in the distribution of E and SC one-dimension adjectives.

4.1. One of the conspicuous differences is the one in the distribution of adjectives denoting man's stature and bodily frame. Stature in SC is expressed by antonyms *visok — nizak* ,whereas in standard E the pair functioning in the same way is *tall—short, high — low* being reserved for mental traits. *Debeo* in SC is equivalent to *fat*, while *mršav* acts as its opposite instead of the antonymous *tanak*. In E, on the contrary, it is the adjective of negative meaning, *thin*, that is opposed to *fat*.

4.2. Sometimes E and SC differ only on the surface, using adjectives which are not formal correspondents to express a common meaning. These cases are (with examples provided): *He is low on fuel=Tanak je sa gorivom* (synonymous with *He is short on fuel=Kratak je sa gorivom*);*There is a low probability of his winning=Postoji tanka mogućnost da će pobediti*; *Our airline has the highest accident-free mileage=Naša vazduhoplovna kompanija ima najdužu kilometražu bez udesa*; *The sculpture originated in high antiquity=Ta skulptura potiče iz duboke starine*; *That was a cause of wide differences=To je bio uzrok dubokih razlika*; *broad jest or wide crack* (*U.S.*) *=debela šala*.

In one case there is an equivalent alternative in E: *I'm short/thin* (non-standard)=*Tanak sam* ('hard up'), or, in two cases, an alternative in SC: *low relief=plitak/nizak reljef*; *narrow path=tanka/uska staza*.

A general conclusion emerges out of these data that when SC and E differ in this way, it is the adjectives of thickness that prevail in SC.

5.0. Some observations may be made concerning the number and the percentage of evaluative sememes, i.e., those meanings whose definitions contain qualifiers such as "positive", "negative", "insufficient", "excessive", or "favorable".

There is a tendency for the positive members of one-dimension adjectives in both languages (like *broad, deep*) to contain both positive and negative evaluation as part of their semantic definitions, while the negative ones (like *narrow, shallow*) contain almost exclusively negative evaluation. But the proportion of positive evaluation for the positive members is higher in SC, while for E an opposite tendency emerges: out of the total number of meanings of one-dimension adjectives, the percentage of negative evaluation is higher than in SC. In E the ratio of positively evaluated meanings to negative meanings is about 1 to 3, and in SC the ratio is approximately 1 to 1.5. Thus, the effect of negative evaluation is more pronounced in E than in SC.

6. 0. From a general inspection of a list of the meanings of one-dimension adjectives, it is evident that adjectives of thickness are more widely separated from the positive adjective of height (i.e., *high*) than is the case in SC. This conclusion is warranted by the facts that both *high* and *visok* hold the highest position among these adjectives as to the number of meanings and to the percentage of positively evaluated meanings; *thin* ranks highest as to the percentage of negative sememes, which is not the case with *tanak*,

as *plitak*, *uzan*, and *nizak* have a higher percentage; *thick* has a higher percentage of negative meanings than *debeo* (25% : 8.6%); *debeo* has a high percentage of positive meanings, immediately following *visok* and *širok*, while *thick* has none. Even *tanak* has one positive meaning (*tanak sluh= sensitive hearing*). *Thin* is not used as an opposite to *thick* in two meanings (§1.1.), while the same is the case with *tanak* against *debeo* in one meaning (§1.2.). Among SC adjectives *debeo* offers most cases of meanings not expressed by one-dimension adjectives in E (6, while the second position is shared by 3 meanings of *kratak*, *visok*, *širok*, and *uzan* (see § 3.2.2. and 3.2.3.). *Tanak* appears three times as an equivalent to E one dimension-adjectives other than *thin*, and leads in this category (§ 4.2.).

On the other hand *long/short* seem to be more productive than their SC formal correspondents *dug/kratak*. This is shown by the following data: *long* is the second most prolific positive one-dimension adjective in E, and *short* is at the top among the negative members. *Dug* is at the bottom with *tanak*, and followed only by *plitak*. As to the number of meanings of the negative members, *kratak* is surpassed by *nizak*. *Long* has one positive meaning as in *She* is *long on looks/brains/common sense* (U. S.), and *dug* has no evaluative meanings. *Dug* does not function as the opposite to *kratak* in two cases (see §1.2.), while *long* is restricted in opposition to *short* only once (§ 1.1.). *Short* and *long* have the greatest number of meanings not expressed by SC one--dimension adjectives (26 and 19 respectively, with *high* following with 18 meanings).

The final remark concerns the adjectives of verticality in E and SC. To use *high* for movement downwards and *low* for movement upwards (§ 3.3.) sounds confusing to the speaker of SC. In his language *visok* is kept in pure contrast with *nizak*, pulling in the opposite direction, the former being centrifugal, the latter centripetal. If this data is associated with the data on evaluation, which state that *visok* has no negative sememes, and covers some meanings of achievement and importance which are absent in E one-dimension adjectives, while *high* has some negative sememes, the same purity of *visok* as compared with *high* emerges. Similarly, *deep* has both positive and negative sememes, while its correspondent *dubok* has practically only positive ones.

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THE NUMBER OF GENDERS IN POLISH

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Introduction

In a recent article, Wertz (1977) reviews the question of the number of genders in Polish.[1] He considers previous answers to the question: three genders ((Klemensiewicz 1965 : 51)), five (Mańczak 1956), six (Brooks and Nalibow (1970 : 137)) and himself proposes seven as the correct solution. It is interesting that an apparently straightforward question should be open to debate, and that there should be such a variety of answers. Naturally, different assumptions as to the nature of gender may produce different analyses; however, as gender is reflected in syntax at a superficial level it is relatively easy to test the adequacy of an analysis. I intend to show that even if we accept Wertz's assumptions, his seven-gender system is unable to handle the surface facts of agreement in Polish. More generally, the split between gender in the singular and gender in the plural, which Wertz and other scholars propose, is untenable.

Data and analysis

If we consider nominative case forms of different nouns in Polish, we find that modifying adjectives take three different forms, which justifies the division of the nouns into three genders:

duż-y stół	duż-a książka	duż-e okno
'large table'	'large book'	'large window'
masculine	feminine	neuter

[1] This paper was written during the tenure of a Research Fellowship at the University of Melbourne, for which I am grateful to the Council of the University. Thanks are also due to Roland Sussex and Wayles Browne for their comments on earlier versions of the paper.

The three classes are traditionally labelled masculine, feminine and neuter. Within the masculines, different agreement forms occur with nouns of different classes in the accusative case:

Nominative	duż-y	stół	duż-y	koń
Accusative	duż-y	stół	duż-ego	konia
Genitive	duż-ego	stołu	duże-go	konia
	'large	table'	'large	horse'
	inanimate		animate	

While *stół* and *koń* share the same attributive and predicative agreement forms when in the nominative, in the accusative case they differ: with *stół* the agreeing form is as for the nominative, with *koń* it is as for the genitive. The majority of nouns in this class refer to humans or animals and so this class is called 'animate'. However, as Wertz points out, there are many nouns which are morphologically animate though they refer to inanimates. Given the large number of nouns in the class and the large number of potential modifiers which can show the distinctive agreeing form, Wertz considers that it is justified to talk of a 'masculine animate gender'. It could be argued that as the distinction is limited to one of the main genders the term 'subgender' would be more appropriate. Or, in a feature approach, animacy might be viewed as a feature whose appearance depends on the combination of other features. For present purposes let us accept Wertz's position and, on the basis of the agreement forms for the accusative singular, accept the postulated masculine animate gender. We will also leave aside the question of whether gender, including animacy, can be derived from elsewhere (from the semantic characterization of a lexical item). Our purpose will be simply to establish how a noun must be labelled in order for correct agreements to be assigned.

So far we have recognised four genders: masculine animate, masculine inanimate, feminine and neuter. When we turn to the nominative plural we find evidence for another subdivision. The form in *-i* (with possible consonant alternation, in this instance ż ~ z) is used with a subset of the masculine animate gender, while the form in *-e* is used with all other nouns:

duz-i mnisi	but: duż-e konie, stoły, książki, okna
large monks	large horses, tables, books, windows

The nouns found in this special category refer to humans; it can therefore be labelled the masculine personal gender, the remaining masculine animates may be assigned to the masculine animal gender. We thus have an additional gender, giving a total of five: masculine personal, masculine animal, masculine inanimate, feminine, neuter. This, as Wertz reports, is Mańczak's answer

to the question of the number of genders in Polish. Others, such as Brooks and Nahbow (1970 : 137) and Schenker (1964 : 15), treat the gender system in the singular as separate from that in the plural. Wertz presents and himself accepts this view. It is based on the fact that there is no gender category in one number which has an exact match in the other. If this approach is adopted then six genders must be recognised: masculine animate, masculine inanimate, feminine and neuter in the singular, and masculine personal and non-masculine personal in the plural. Before discussing the merits of this analysis let us first consider the complicating class which Wertz introduces, which leads him to postulate a seventh gender.

While the nouns which take the agreeing form *duz-i* in the plural refer to masculine humans, there are some masculine humans not included in the category and those take non-masculine personal modifiers. These are generally treated as a matter of stylistics or semantics but, as Wertz (1977 : 60) argues forcefully, this approach is inadequate as there are some nouns which, while referring to masculine humans, regularly take non-masculine personal agreement. (For discussion of the masculine personal category see Rothstein (1976 : 248—50), Tixomirova (1979)). Nor is membership in the group predictable. These cannot be simply assigned to the non-masculine personal class as we shall see when we consider the accusative case forms:

NOM	duz-i	mnisi	duż-e	karły	duż-e	konie	duż-e	stoły
ACC	duż-ych	mnichów	duż-ych	karłów	duż-e	konie	duż-e	stoły
GEN	duż-ych	mnichów	duż-ych	karłów	duż-ych	koni	duż-ych	stołów
	'large	monks'	'large	dwarfs'	'large	horses'	'large	tables'
	I		II		III		IV	

When in the accusative plural, *karzel* (II), like *mnich* (I), requires the same agreement form as for the genitive plural; it is therefore distinct from all the other classes and must be recognized as a separate gender: Wertz labels it the 'devirilized' gender. As he accepts the split between singular and plural he proposes seven genders: four in the singular: masculine animate, masculine inanimate, feminine and neuter; and three in the plural: masculine personal (I above), devirilized (II) and non-masculine personal (comprising III and IV above, as well as feminines and neuters). If *karzel* is recognised as a special type, but the singular-plural split is not considered relevant, we would have six genders: masculine personal (I), masculine devirilized (II), masculine animate (III), masculine inanimate (IV), feminine, and neuter.

Let us now consider the justification for the widespread practice of considering gender separately for the singular and plural. Given that it increases the number of genders (giving seven instead of six) the onus is on those who favour this move to show its advantage. Certainly in terms of assigning the

correct argument features, the analysis which gives each noun a single gender is adequate. Furthermore, the criterion for deciding to treat gender in the singular as separate from gender in the plural is dubious. By the same reasoning, the lack of correspondence of forms, one could give a different number of genders for direct and oblique cases. However, the crucial evidence which shows that gender should not be split between singular and plural comes from the form of predicate agreement with subjects consisting of conjoined nouns. Consider the following sentences (Brooks 1973 : 62):

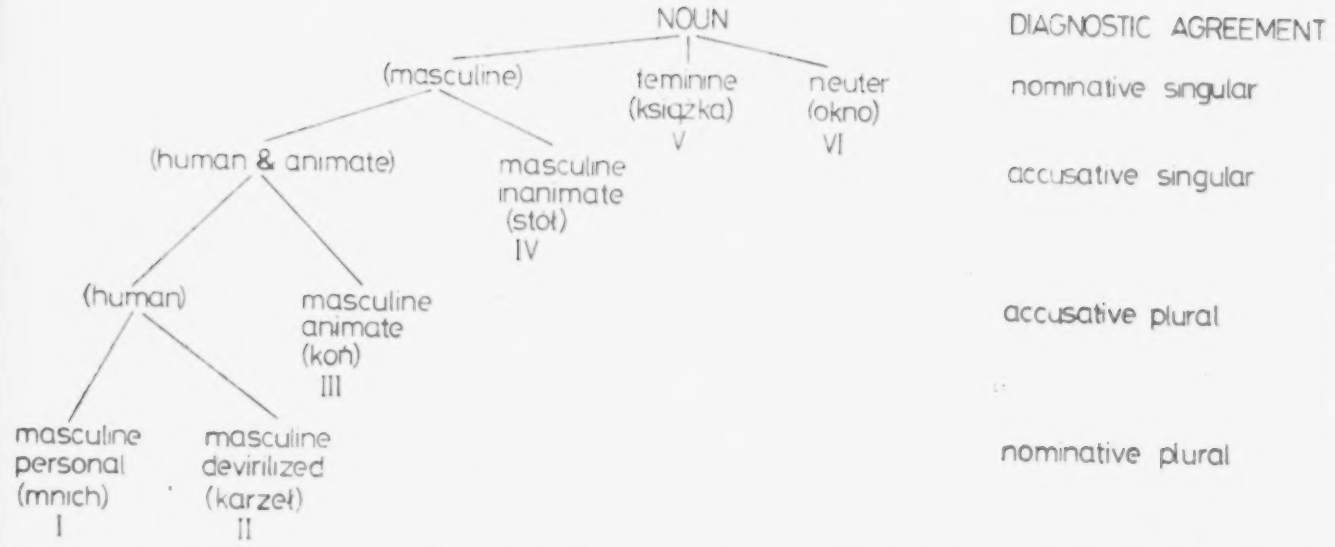
(1) Pan i dziecko szli ulicą
Man and child went along street
(2) Kot i jagnię spały przed domem
Cat and lamb slept before house

In both sentences the subject consists of two singular nouns, one masculine animate and one neuter. In terms of the four 'singular genders' they are identical. But the agreement forms shown by the verbs are different: ***szli*** is a masculine personal form, while ***spały*** is a non-masculine personal form. The basic rule, given by various writers, is that if one conjunct of a compound subject is masculine personal, then the predicate will be masculine personal.[2] The point is that for agreement rules to operate correctly, ***pan*** and ***kot*** must be differently marked, even when they are in the singular, as shown by sentences (1) and (2). Thus the separation of gender in the singular and plural cannot be maintained, and we must reject the seven-gender system. To account for Wertz's data we should return to the six-gender system outlined above. It is repeated schematically on page 87.

[2] This rule can be found in numerous works. There are, however, examples in which the masculine personal forms can be used even when none of the conjuncts in the subject is masculine personal. These are discussed in Doroszewski (1962 : 237), Buttler et al. (1971 : 332), Brooks (1973 : 61) Rothstein (1973 : 313–14; 1976 : 250) and Corbett (1982). The following example is taken from Doroszewski (1962 : 237):

(i) Hania (f) i Reks (m) bawili się piłką
'Hania and Reks played with ball'

Reks (Rex) is a dog; there is therefore no masculine personal conjunct in the subject but nevertheless the masculine personal form is used in the predicate. The generalization to cover sentences of this type seems to be that the masculine personal form can be used in the predicate providing the subject is masculine and personal on aggregate; the features referred to may be syntactic or semantic. Thus in the sentence above, *Hania* is semantically personal (i.e. refers to a human) and *Reks* is syntactically masculine. While this conclusion is surprising, it should be possible to account for the data using an approach based on features, with rules governing the possible combinations of features. If we try to account for these data using the approach of Wertz we still cannot escape the necessity to mark nouns like *pan* as personal in the singular. If, however, we restrict ourselves to the straightforward cases, then the six-gender approach is adequate and seven-gender approach is not.



(The heading 'diagnostic agreement' refers to the agreement form which justifies the separation of the genders on that line).

As has been shown, we can account for Wertz's data and also for the predicate agreement in examples like (1) and (2) by using six rather than seven gender markers. In assessing the six-gender system we should first consider two objections Wertz raises to combining singular and plural in this way. First, he claims that nouns like *chłopisko* 'big fellow' can be neuter in the singular and devirilized in the plural (1977 : 62). This combination is not covered by any of our six classes. He also states (1977 : 62) that their plural can also be non-personal. However, as Macjusovič (1975 : 61) indicates, this noun has two agreement possibilities in the singular as well, not only neuter but also masculine; *ten wielki chłopisko* 'this big fellow' (for confirmation see Buttler et al. (1971 : 136). There is therefore no need to link neuter singular and devirilized plural; nouns of the type described by Wertz can be analyzed as having two possible genders, devirilized (II above) or neuter (VI). The second objection concerns *pluralia tantum* such as *nożycki* 'scissors' and *usta* 'mouth'; if singular and plural are combined, these must be assigned to a gender, even thought they lack the singular forms to determine which one. We could, of course assign them to a special gender (as Zaliznjak does in Russian (1967 : 66—80)). Alternatively, they could be assigned to the most likely of the six classes (they require irregular marking in any event and so non-existing forms will not be generated). Clearly they cannot belong to genders I or II, as agreements for the accusative are not the same as for the genitive. Any of the remaining gender assignments would give the correct agreement of results; it seems best to assign them by analogy of form, e.g. *usta* to class VI, given that many neuters take the nominative plural ending *-a*.

The data can therefore be accounted for using the six-gender approach. There are, however, grounds for doubting whether this is the best approach. Simply labelling Polish nouns for one of these six genders fails to capture the similarities between the subdivisions of the traditional 'masculine' gender. In particular the accusative-genitive syncretism is ignored — it would 'cost' no more in terms of labels if devirilized nouns showed accusative-dative syncretism of agreeing forms and animate nouns showed accusative-instrumental syncretism. (The same objection would apply equally to the approach splitting singular and plural — there the fact that the syncretism of the same cases applies in singular and plural is left out of account). This suggests that a feature approach (as in Rothstein (1973 : 310); and, for other Slavonic languages Corbett (1980)) is preferable. However, that is a separate issue. Our aim has been to show that, even accepting Wertz's data and assumptions, the seven-gender system is inadequate to account for the agreement facts of Polish (as indeed are other accounts which split gender between singular and plural). The data can be handled using a more economical six-gender system.

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THE METHODS OF ESTABLISHING THE PRODUCTIVITY OF WORD FORMATION RULES (WFRs)

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The present state of the study of word formation (WF) gives priority to questions about the principles which determine the productivity of WFRs, and the properties which distinguish productive from unproductive processes. A better understanding of these problems is necessary not only to define the concept of a WFR in a more detailed way, but also to describe the WF component and find a "place" for it in the model of generative grammar.

The aim of this paper is to investigate some methods that can serve to establish productivity in WF. These will be viewed from the point of view of productivity defined as "the possibility which language users have to form in principle an uncountable number of new words unintentionally, by means of a morphological process which is the basis of form-meaning correspondence of some words they know" (Booij (1977 : 4), after Schultink (1961)). This understanding of productivity immediately limits the types of methods that I consider here as primary. It does not permit reliance on those methods that determine the productivity on the basis of experiments which examine "intentional" formation of words. It is assumed here that the derivation of words is based on a rule-governed and not on a rule-changing creativity. Thus, the experiments of this type may provide only some additional evidence.

A traditional method, i.e. the one in which the so called "index of productivity" is measured as a ratio of words mentioned, say, in the most recent dictionary of a language over those that were mentioned in some earlier dictionary, is rejected on totally different grounds (this method was employed by Grzegorczykowa and Puzynina (1979), in their analysis of Polish WF). The same criticism applies to a variant of this method discussed by Aronoff (1976), in which the index of productivity is measured as

a ratio of possible to actually listed words (1976 : 36). Quantitative approaches of this type, instead of establishing productivity, may simply show, say, in the case of two WFRs, one of which requires nominal and the other adjectival bases, that a given language has more nouns than adjectives. That is, the process with nominal bases may seem to be more productive (than the one with adjectival bases) simply because that language has more nouns than adjectives (cf. Booij (1977 : 121)). Moreover, as observed by Arnoff (and earlier by Zimmer 1964), such methods do not show that the productivity of a WF process may be determined by the morphological structure of a base; e.g. of the two English affixes #*ness* and +*ity* which form abstract nouns from e.g. adjectival bases in +*ive* and +*ile*, #*ness* is more productive with adjectival bases in +*ive* (*perceptiveness*) and at the same time less productive with adjectival bases in +*ile* (the reverse is true for the suffix +*ity* and respective adjectival bases; cf. Arnoff (1976 : 36)). The analysis based on the comparison of lists either does not reveal such intricacies or leads to contradictory results.

A variant of this method mentioned by Aronoff (1976 : 36), in which the index of productivity is measured as a ratio of possible to actually listed words, invites a more serious criticism. This technique, as Aronoff rightly observes, "depends very crucially on the idea that every time we make up a new word it is entered in a list. Unless all new words are listed, we have no effective procedure for computing the ratio of existing to possible words even if we restrict ourselves to a particular morphological class of bases" (1976 : 36). There are cases, however, where the concept of a list is simply counter-intuitive. The formation of adverbs in English is just as regular as, say, the formation of the 3rd Per. Sg. Present Tense. Any adjective, unless it already ends in *-ly*, may serve as a base for adverb derivation. Similarly, the formation of nouns denoting activity in Polish in *-anie* (*pisać* "write" — *pisanie* "writing"), *-enie* (*palić* "smoke" — *palenie* "smoking"), *-ęcie* (*ciąć* "cut" — *cięcie* "cutting") is almost categorial. The distribution of these suffixes is complementary and any verb in Polish (except for a few isolated cases) can be a base of an Action Noun. Thus, if one claims that derivatives such as *pisanie*, *palenie*, *cięcie* are not listed, the method of establishing productivity based on the comparison of lists must be rejected as well.

A totally different approach to productivity has begun with the works of Jackendoff (1975), Aronoff (1976), and Booij (1977) in his analysis of WF in Dutch. Stated in most general terms, the productivity of a WFR is said to be "inversely proportional to the amount of competence restrictions on the WFR" (Booij (1977 : 5); cf. Jackendoff's idea of independent information content). A few comments are necessary here. The scope of the application of a WFR does not refer to actual words only. This follows from the task of the WF component and from a double function that is ascribed to WFRs.

The WF component should specify the notion "possible complex word of a language, and therefore has to exclude impossible complex words of a language only, i.e., the task of the WF is also to specify well-formed but non-existing words, and the fact that a given word has not been actualized has nothing to do with the productivity of a given rule" (Booij (1977 : 120—121)). According to Booij, a productive WFR has a double function: on the one hand it analyzes the structure of existing complex words, and on the other, it indicates in which ways a new complex word can be derived. Unproductive WFRs, by contrast with productive processes, have the function of redundancy rules only with respect to existing words (cf. Booij (1977 : 38)). Now, this is a considerable weakening of Aronoff's approach to redundancy rules. According to Aronoff, a WFR which can function as a redundancy rule must *still* be productive. This condition was rejected by Boji in order to account for the relatedness that exists between simplex words and complex words formed by unproductive WFRs (cf. the suffix *-egge* in Dutch is unproductive and still there is a clear relatedness between *dievegge* "female thief" and *dief* "thief").

Another argument against Aronoff's approach suggests itself: what I mean here is the phenomenon of "sudden" activity of a once unproductive affix. If we assume the existence of a redundancy relation between words with unproductive affixes and their bases, then this "sudden" activity is what we can expect to happen (cf. examples of recent activity of unproductive deverbal *-iwo* suffix in Polish: *tworzywo* "material", *spoiwo* "binder", mentioned in Laskowski 1979). The phenomenon can be readily explained as the change in the status of a WFR, i.e. it changed from an unproductive relation to the one with increasing productivity (or, productive) . The idea of addition of a rule seems not well motivated here, as the relation between older derivatives, e.g. *pieczywo* "bread" and verb *piec* "bake" is still alive.

Now, let me present some of the competence restrictions that can serve to identify the productivity of a WFR. The first group covers various types of general and rule-specific conditions on bases of WFRs:

(a) conditions on the phonological form of bases

(b) morphological conditions on bases. These are of three types:

1 — conditions with respect to the presence of specific morphemes in bases;

2 — conditions with respect to the presence of internal boundaries in bases;

3 — conditions with respect to the presence of morphemes with specific features in bases;

(c) syntactic conditions on bases.

The second group of competence restrictions refers to what one may call the degree of formal and semantic transparency of a derivational process,

i.e., a set of global or output conditions on the application of WFRs. Let me observe that Booij recognizes a still different class of competence restrictions, i.e., those which are implied by "general properties of the WF component". These refer mainly to the ordering of WFRs, e.g., the relation of prefixation and suffixation rules or, of suffixes with + and # boundaries.

Now, let me pass to a discussion of WFRs that form Nouns of Location in Polish. I will not attempt here to check the validity of the competence restrictions mentioned above, but will rather try to show that the concept of competence restrictions should be broadened so as to cover some other factors that influence the productivity of WFRs.

A standard method for isolating the productivity of a WFR presented by Aronoff was based on the comparison of "two rules which operate on the same base and [have] outputs of the same category and subcategorization" (1976 : 37). This was necessitated by the need for "removing outside factors that might interfere with the results" (1976 : 37), i.e. the rules differ only in productivity. A typical example here is the comparison of English suffixes # *ity* and # *ness*, both of which form abstract nouns from adjectives. In order to determine the productivity of the two rules, Aronoff chooses a "subclass of adjectives to which they clash (....), i.e. adjectives of the form *X-ous*". There is no need to repeat the discussion and the results as they are not relevant to our argument. What we may observe, however, is that this method allows us to compare the productivity of WFRs under extremely unusual circumstances *only*. Aronoff, himself, observes that "such rival pairs are not easy to come by for morphological restrictions are often arranged so as to preclude them" (1976 : 37). Yet, he does not provide any analysis of productivity of WFRs in an "unmarked" situation — we still do not know how to compare the productivity of two rules which produce the same outputs (lexical category, subcategorization, semantic reading), but which operate on morphologically distinct bases. This is the case in the derivation of Nouns of Location in Polish by means of suffixes *+alnia* and *+arnia*. The former suffix attaches almost exclusively to verbal bases in *+a*, e.g. *wypożyczać* "to lend, borrow" — *wypożyczalnia* "library", *zamrażać* "to freeze" — *zamrażalnia* "refrigerating plant", while the verbal bases of *+arnia* are formed by stems in *+i*, e.g. *palić* "to smoke" — *palarnia* "smoking room", or *+ow*: *modelować* "to pattern" — *modelarnia* pattern-shop". Moreover, a few derivatives formed from verbal bases in *+a* by the attachement of the suffix *+arnia* instead of *+alnia* cannot be interpreted from the point of view of the productivity of *+arnia* rule with verbal bases in *+a*. Their existence is due to the global constraint on the application of *+alnia* rule: it is blocked by the presence of a lateral consonant in the base, e.g. *+arnia* was applied to the base *powielać* "to copy" since a derivative *powielalnia is unacceptable.

Thus, the applicability of this method seems to be highly restricted. Moreover, it is useful for the analysis of rather peculiar WFRs, i.e., only those whose outputs are the same and whose bases at least partially overlap. The possibility that the same factors determine the productivity of rules with partly common bases and of those that apply to mutually exclusive bases, seems highly unlikely.

Moreover, the technique discussed evoked a "side-effect" of a more general nature. It narrowed down the studies of the productivity of WFRs to the analysis of the nature of bases of WFRs and of interrelations ob bases and derivatives. The questions whether the productivity of a WFR may be determined by a relation of a given rule to the whole system of WFRs, and not only by a relation of two rules with overlapping bases, were never raised within this framework. Such considerations seem to be necessary in order to explain a gradual decline in the productivity of the *+isko* suffix which forms Nouns of Location denoting open areas in Polish. The suffix in question is ambiguous in two ways: firstly, it violates "the unitary base hypothesis" since it can attach to syntactically "non-uniform" bases, i.e., nouns, e.g. *kartofel* "potato" — *kartoflisko* "potato field", and to verbs-*łowić* "to fish" — *łowisko* "fishery"; secondly, the *+isko* suffix can form Augmentatives from nominal bases, e.g. *kot* "cat" — *kocisko* "Tom-cat". Now, the fact that the *+isko* suffix can attach to nominal bases to form Nouns of Location and Augmentatives seems to be the chief reason for the decreasing productivity of the *+isko* suffix in its function to form Nouns of Location. The rival suffix *+owisko* gradually takes over the formation of Locatives, e.g. of recent formations: *namiot* "a tent" *namiotowisko* "tent-field", *złom* "scrap-metal" — *złomowisko* "scrap-heap", *blok* "building" — *blokowisko* "a block of buildings". Observe here, that the first type of ambiguity cannot provide an explanation of this change. If the attachment of the *+isko* suffix to disjunctive bases (either a noun or a verb) were the chief reason for this change, then we would not be able to explain why the *+isko* WFR is blocked by nominal and not by verbal bases. On purely structural grounds a tendency toward the application of this rule nominal bases only (with some other suffix assuming the formation of Locatives from verbal bases) is equally possible. Thus, it seems necessary to recognize functional ambiguity of an affix (here formation of Locatives and Augmentatives) as a possible competence restriction on the productivity in WF.

It is obvious, however, that not every functional ambiguity leads to the loss of productivity of WFRs. The functional ambiguity of the *-er* suffix in English (i.e., the formation of Agent Nouns and of the Comparative Degree of Adjectives), does not result in the decrease in productivity of either of these two processes. Yet, the situation here is totally different: the two rules apply to syntactically distinct bases — Agentive *-er* Rule to verbs, Compa-

rative *-er* Rule to adjectives. What the two rules have in common is only the form of the sufix. Thus, we can already restrict the type of functional ambiguity which leads to a decrease in productivity of a WFR: only that functionally ambiguous WFR will lose its productivity whose bases at least partially overlap with some other ambiguous process (cf. two functionally ambiguous *+isko* WFRs applied to nominal bases).

So far we have discussed the relation between two rules which produce functionally distinct items (Augmentatives vs Locatives, Agent Nouns vs Comparatives). The analysis of Polish Locatives which denote "closed areas, rooms", reveals that the productivity of a WFR may be determined by a relation of a given rule to other WFRs with the same function.

As there is no space for a detailed description of these suffixes, I will present only some basic points. There are four suffixes with common locative function (many of them are technical terms), and only one of them, namely, *+alnia* does not interact with bases of other suffixes, i.e. *+ownia*, *+nia*, and *+arnia*. It is the only suffix which freely forms Locatives from verbal bases in *+a*, e.g. *przebierać (się)* "to change" — *przebieralnia* "changing room". Also, *+ownia* WFR, e.g. *żagiel* "a sail" — *żaglownia* "sail-room", has clear conditions on its application: nominal bases which are [—Animate]; phonological changes — regular deletion of a fleeting vowel; derivatives are semantically coherent. Yet, the status of the *+ownia* suffix is not as clear as that of *+alnia*, since it is involved in complex interrelations with other locative suffixes (see below).

The suffix *+nia* is restricted by being attached to nouns that end in *-er, -(t)or* Agent Nouns in *+arz*, e.g. *kompresor* "compressor" — *kompresornia* "compressor room", *dyspozytor* "dispatcher" — *dyspozytornia* "dispatcher's office", *stolarz* "carpenter" — *stolarnia* "carpenter's shop", and to verbs in *-ować* (with few exceptions), e.g. *pakować* "to pack" — *pakowalnia* "packing-room". Also, derivatives in *+nia* form a semantically coherent group (except for few Abstract Nouns e.g. *wyobraźnia* "imagination").

The *+arnia* WFR seems to be most opaque: it applies to syntactically disjunctive bases — mainly to nouns, e.g. *koszyk* "basket" — *koszykarnia* "basketry workshop", but also to verbs, e.g. *palić* "to smoke" — *palarnia* "smoking-room"; it induces phonologically irregular changes in the base (cf. numerous free variants: *króli-k-arnia* — *króli-cz-arnia* "rabbit warren", *ampul-k-arnia -ampul-cz-arnia* "ampule shop", *bażan-t-arnia* — *bażan-ci-arnia* "pheasantry"); and, it is not semantically coherent; the following meanings are possible: 1. a place where sth is stored, e.g. *kartoflarnia* "a place where potatoes are stored", 2. a shop where sth is sold — *ciastkarnia* "confectionery", 3. a place that is used for animal husbandry or cultivation of plants — *królikarnia* "rabbit warren", *pieczarkarnia* "mushroom growing cellar", 4. a place where an activity is performed — *palarnia* "smoking room", 5. collective

meaning — ***dzieciarnia*** "the young folks". However, the fact that the ***+arnia*** rule requires relatively high competence restrictions does not lead to a complete loss of productivity. What seems to happen is that semantic reading of this rule gradually changes. It begins to form productively names of plantations and places used for animal husbandry (cf. ***pieczarkarnia*** "mushroom growing cellar", ***pstrągarnia*** "trout farm"), and continues to form nouns denoting shops (***szaszłykarnia*** "a shop where shashliks are sold"). Here, the ***+ownia*** WFR seems to take over the formation of Locatives denoting names of factories or workshops in factories. This seems to be the reason for numerous formations of ***+arnia*** and ***+ownia*** doublets, e.g. ***tran*** "cod-liver" — ***tranownia***, ***traniarnia*** "a shop where cod-liver oil is produced", ***drut*** "wire" — ***drutownia***, ***druciarnia*** "wire-drawing mill", ***masło*** "butter" — ***masłownia***, ***maślarnia*** "butter-making shop" (derivatives in ***+arnia*** often have social marking, while ***+ownia*** nouns are neutral). What seems to support this view is that ***+arnia*** derivatives which denote "plantations or shops" do not have doublets, cf. *pieczarkownia, *szaszłykownia.

There is no doubt that this is a process at change. It is not true that ***+arnia*** has lost completely the possibility of formation of Locatives with the meaning "a factory or a workshop in a factory". This may be partly due to a very close relation of ***+arnia*** rule to the denominal ***+nia*** rule (the latter rule forms semantically transparent Nouns of Location). Locatives such as ***drukarnia*** "printing house", ***perukarnia*** "wig-shop" are derivationally opaque, i.e. they may be formed either by ***+nia*** WFR (from bases ***drukarz*** "printer", ***perukarz*** "wig maker") or, by ***+arnia*** WFR (bases ***druk*** "print", ***peruka*** "wig"). Although semantic readings of the two rules differ, the fact that they "share" the meaning of *location* does not allow at the moment for the ***+arnia*** rule to lose the *locative* meaning; ***+arnia*** not only forms nouns denoting "plantations, etc.", but is still used productively to derive Locatives denoting "factories or workshops in factories", e.g. ***tabletkarnia*** "tablet factory", ***gwoździarnia*** "nail factory". That is, the conspiracy of ***+arnia*** and ***+nia*** rule on the one hand hinders the semantic specialization of ***+arnia***, and on the other, it may be one of the reasons for the appearance of new derivatives in ***+arnia*** with the "old" *locative* meaning.

One can also risk a claim that the productivity of ***+ownia*** and ***+nia*** rules is strengthened by a conspiracy of these rules. Here, both rules "co-operate" to produce Locatives such as ***lakierownia*** "varnish factory" (***lakier*** "varnish" — $lakier_s$ ***+nia*** or, ***lakierować*** "to varnish" — $lakierow_v$***+nia***). It seems justified to assume that the cost of derivatives such as ***lakierownia*** is reduced, since a speaker can analyze them by referring to one of the two rules. If it is true that the productivity of WFRs is inversely proportional to the amount of competence restrictions, then one can also claim that the productivity of rules which conspire should increase.

If we try to compare the functional relations discussed above, it appears that the conspiracy of WFRs may strengthen the productivity of a rule with low competence restrictions (cf. *+ownia* and *+nia*), and of a rule with a large amount of independent information content (cf. *+arnia*). In the latter case, the conspiracy somehow hinders the process of semantic specialization of the *+arnia* rule by preserving the relation of this rule to the *+nia* rule.

Let me observe here that the Locative suffix *+alnia* has already passed a stage of derivational conspiracy with the *+nia* rule. Historically, the suffix developed from the adjectival *+aln(y)* plus Locative *+nia* (cf. Satkiewicz 1961). At the stage when the adjectives in *+alny* developed a meaning of "possible, potential", the *+alnia* suffix gained a completely independent status, since the application of the *+nia* rule to adjectives with this meaning was blocked. This seems to be one of the possible developments of the conspiracy in WF. Yet, the present stage of conspiracies of other Locative suffixes does not show any hint of blocking of this functional relation. Instead, this may be one of the reasons for the increase in productivity of those rules.

The analysis of Polish Locatives seems to show that productivity in WF cannot be viewed as a phenomenon which is determined by relations of a base to an affix only. It appears that interrelations of WFRs (either with the same function or different) may influence the degree of productivity of a WF process. Thus, it seems justified to claim that the concept of competence restrictions should be broadened so as to allow for the evaluation of functional relations of WFRs.

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POLISH AND ENGLISH VOWELS: A CONTACT SITUATION

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1. Language contact arises with an alternate use of two languages. Our interest here concerns the mode in which Polish speakers of English render the English vowels. Thus the article describes English vowels as produced by Polish speakers. This description is based on a detailed examination of utterances made by 10 Polish informants.

Informants. The informants chosen for the experiment were all advanced students of English at the Higher School of Foreign Languages, Warsaw University, who, at the time of the experiment were 21—24 years of age. Because they had all learned English for 7 to 10 years it could be assumed that the sound system used by them in rendering English sounds was fully internalized. All the informants had had one year of phonetic training in the advanced type of RP English. All the informants were born and brought up in Warsaw, thus speaking the same dialect of Polish.

Material. The inventory consists of about 300—400 test words uttered by all informants. 15 lists of words including all possible distributional variants of English vowels were made. Some of the words included in the inventory were repeated in several lists but they were listed in random order. The total number of utterances examined is about 3.800. The test words appear in a sentence context. The sentence frames used were: "Say the word _____ to me", and "What does _____ mean?"

Equipment. Sentences with test words were uttered by the informants and recorded in a sound-proof recording studio. The recordings were made with a Sony Stereo Taperecorder TC-366 (frequency response 20—25.000 Hz at 7½ ips) and an unidirectional Electret Condenser Microphone ECM-21 (frequency response 50—12.000 Hz).

Procedure. The assessments of phonetic quality of each variant were made

after numerous auditions. With more difficult and dubious cases the author was helped by 4 trained native English phoneticians. To check the validity of the auditory judgements concerning phonemic correctness of Polish speakers' rendition of English vowels, 12—17 native English speakers of RP made identifications. Using earphones they listened to the utterances from tape recordings made by the Polish informants and wrote down what they heard on answer forms using ordinary orthography. Their answers show whether Polish speakers pronounce English vowel sounds within the phonemic range of a given vowel, i.e. the test was intended to check what phonemic errors Polish speakers make. The English listeners were also asked to mark those items which, although identified, they regarded unacceptable. Such cases were also considered to be phonemic errors on the part of the Polish speakers of English (these identifications could not be trusted, as they could be attributed to redundancy).

Tables. The results of the listening tests are shown in Tables 1—20. In the tables that follow the results are first given for individual informants (the informants being simply given numbers 1—10). After that the common average for each allophone or phoneme is calculated.

2. A detailed description of both Polish and English vowels is out of the scope of this paper. However, to make it more readable, a short presentation of the inventories as adopted here seems necessary.

2.1. In brief, the Polish oral syllabic vowel phonemes and their subsequent variants can be described in articulatory terms as follows (cf. Jassem 1958, 1962, 1964, 1966; Wierzchowska 1963, 1967, 1971; Stieber 1966; Benni 1959; Dłuska 1950; Zybert 1976):

/i/ front close unrounded
  [i_1] main variant (e.g. *I*kar)
  [i_2] raised variant (between palatalized Cs, e.g. *kosić*)
/e/ front half-open unrounded
  [e_1] main (e.g. *mewa*, *kreol*)
  [e_2] raised (in the neighbourhood of palatals, e.g. *jedzie*, *sieć*)
/ɨ/ front retracted half-close unrounded (e.g. *syn*)
  [ɨ] no other variants
/a/ front retracted open unrounded
  [a_1] main (e.g. *Anna*, *rak*)
  [a_2] fronted and slightly raised (in palatal environment, e.g. *siać*)
/o/ back half-open rounded
  [o_1] main (e.g. *oko*, *kolor*)
  [o_2] raised and fronted (in the neighbourhood of palatals, e.g. *siostra*)
/u/ back close rounded

[u$_1$] main (e.g. *suma*, *kluczy*)
[u$_2$] fronted (between palatals, e.g. Maciuś)

2.2. The term *English* in this paper refers to the advanced type of RP described by Jassem (1962, 1964) and Gimson (1970). The English vowels can be described briefly as follows:

/i/ front half-close unrounded
[i$_1$] main variant (e.g. *hid* [hid])
[i$_2$] retracted (before dark [l], e.g. *silk* [silk])
[i$_3$] raised and fronted (in the falling diphthong before [j], e.g. *see* [sij])
[i$_4$] lowered and retracted (in final position, e.g. *ready* ['redi])
/e/ front mid unrounded
[e$_1$] main (e.g. *head* [hed])
[e$_2$] retracted and lowered (before dark [l], e.g. *belt* [belt])
[e$_3$] lowered (in the falling diphthong before [j], e.g. *pay* [pej])
/ɛ/ front half-open unrounded
[ɛ$_1$] main (e.g. *had* [hɛd])
[ɛ$_2$] retracted and lowered (before dark [l], e.g. *pal*pable ['pɛlpabl])
/a/ front open unrounded
[a$_1$] main (e.g. *bud* [bad])
[a$_2$] centralized (before dark [l], e.g. *bulk* [balk])
[a$_3$] centralized and fully open (in the falling diphthongs before [j], or before [w] followed by dark [l], e.g. *high* [haj], *howl* [hawl])
[a$_4$] fronted and fully open (in the falling diphthong before [w], e.g. *how* [haw])
/ɑ/ back-fronted open unrounded
[ɑ] one variant only (e.g. *hard* [hɑd])
/ɔ/ back open rounded
[ɔ$_1$] main (e.g. *hot* [hɔt])
[ɔ$_2$] raised (in falling diphthongs before [j], e.g. *boy* [bɔj])
/o/ back mid rounded
[o$_1$] one variant only (e.g. *board* [bod])
/u/ back half-close rounded
[u$_1$] main (e.g. *hood* [hud])
[u$_2$] retracted (in the falling diphthong before [w] followed by dark [l], e.g. *school* [skuwl])
[u$_3$] raised and centralized (in the falling diphthong [uw] preceded by [j], e.g. *you* [juw])
[u$_4$] lowered (in the level diphtong [uə], e.g. *tour* [tuə])
/ɜ/ central mid unrounded
[ɜ$_1$] main (e.g. *heard* [hɜd])

[ɜ$_2$] fronted (in the diphthong [ɜw] not followed by dark [l], e.g. *home* [hɜwm])

[ɜ$_3$] retracted (in the diphthong [ɜw] followed by dark [l], e.g. *goal* [gɜwl])

/ə/ central non-mid unrounded

[ə$_1$] main (e.g. *about* [ə'bawt]

[ə$_2$] lowered (in final position and in the falling diphthongs [iə], [ɛə], and [uə], e.g. *sister* [sistə], *hear* [hiə], *hair* [hɛə], *boor* [buə])

[ə$_3$] raised and retracted (in other positions than [ə$_1$] and [ə$_2$] and when adjacent to the velars [k], [g], and [ŋ], e.g. *long ago* [lɔŋ ə'gɛw])

3. A comparison of the E/i/ phoneme with the P/i/ and /i/ phonemes suggests that the Polish learner of English is likely to use his native /i/ for the high variant of E/i/, i.e. [i$_3$], and his P/i/ for the remaining allophones of the English phoneme. The analysis of the /i/ phoneme used by the Polish informants in their English clearly indicates such an inclination. However, we cannot speak of plain phone-substitution (though this may be the case with Polish learners who do not have relevant phonetic practice). Nonetheless, having been trained to use a sound which is lower and retracted compared to P/i/, Polish speakers in general do not quite reach the required tongue position for E[i$_3$]. This reluctance in lowering the tongue sufficiently may be due to the fact that they may arrive at P/i/. Since E[i$_3$] is normally associated with P/i/ and the low variants with P/i/ it is natural that the phonemic opposition between P/i/ and /i/ hinders Polish speakers in their associating all the variants of E/i/ with only one phoneme (i.e. this opposition promoted divergence), as it seems to them to be merging two different phonemes. However, E[i$_3$] does not pose any special difficulties, and it never caused phonemic errors. This English allophone is usually correctly articulated if Polish speakers acquire the habit of diphthongizing it.

Of the low variants of E/i/ the main variant may be a bit troublesome. In

Table 1. Assessment of E[i$_3$] by English listeners

Uttered by	No of tests	Identified as		
		[i$_3$]	[i$_1$]	?
1	80	100%	—	—
2	80	90,0%	10%	—
3	80	97,5%	2,5%	—
4	88	100%	—	—
5	88	95,5%	4,5%	—
6	78	97,4%	2,6%	—
7	72	97,2%	2,8%	—
8	78	90,0%	7,4%	2,6%
9	80	100%	—	—
10	78	97,4%	2,6%	—
Total	802	Average 95,7%	4%	0,3%

order to reach the position for E[i_1] Polish learners are taught to lower and front the tongue from the position for P/i/. However, this lowering and fronting can easily be overdone and, as E[i_1] is almost equidistant from P/i/ and E[e_1], Polish speakers can articulate a sound which is closer to E/e/, thus committing a phonemic error. Although this was rather unexpected the listening tests did confirm such errors which had been found in the earlier auditory tests. In the case of Informant 7 (cf. Table 2) we can talk of a fixed habit probably due to hypercorrection.

Table 2. Assessment of E[i_1] by English listeners

Uttered by	No of tests	Identified as		
		[i_1]	/e/	?
1	80	100%	—	—
2	80	100%	—	—
3	80	72,5%	20%	7,5%
4	88	93,2%	4,5%	2,3%
5	88	84,1%	11,4%	4,5%
6	78	100%	—	—
7	52	30,8%	61,2%	8,0%
8	78	100%	—	—
9	80	100%	—	—
10	80	100%	—	—
Total	784 Average	88,1%	9,7%	2,2%

E[i_2] is usually correctly pronounced by Polish speakers. It appears that this variant need not be specially taught, and there even seems to be some danger in attempting to teach Polish speakers to articulate E[i_2] as a sound which should be lowered from the position for P/i/ as they may easily arrive at a position for E[e_2]. E[i_2] being the closest in quality to P/i/ is easily attained: the Polish sound, if used before a correctly pronounced [t], becomes automatically slightly lowered, thus giving the required quality of E[i_2].

Table 3. Assessment of E[i_2] by English listeners

Uttered by	No of tests	Identified as			
		/i/	/e/	/ɜ/	?
1	80	100%	—	—	—
2	80	100%	—	—	—
3	80	100%	—	—	—
4	88	95,5%	4,5%	—	—
5	88	93,1%	—	6,9%	—
6	78	100%	—	—	—
7	52	100%	—	—	—
8	78	89,8%	—	5,1%	5,1%
9	80	100%	—	—	—
10	80	100%	—	—	—
Total	784 Average	97,4%	0,5%	1,6%	0,5%

The sounds the Polish informants use for E[i_4] are generally not lowered enough. A certain tendency to diphthongize can be noticed on numerous occasions. The English listeners made 100% correct identifications of the sound as their [i_4], but this may be due to redundancy: they might expect only /i/ or /ɔ/ but since in the final position the latter sound is distinctly of an open quality, the two sounds could not possibly be confused and thus the English listeners always gave /i/ in their answers.

Generally speaking, E/i/ is not a very difficult phoneme for Polish speakers. Of its allophones the main one, [i_1], is the most difficult: the danger is that in its place Polish speakers either want to use their /i/ making a phonetic error, or they depart too far from this position coming close to /e/ and making a phonemic error. E[i_2] is often articulated too close thus resembling P/i/, being not diphthongized, and this last phonetic feature has to be stressed as it is not difficult for Polish learners to master.

4. Overlapping phonemes may cause distributional problems owing to Difference 6 (some differences between Polish and English vowel systems are discussed in the final section). The acquisition of a new distribution of a familiar sound proves very difficult. The use of P[e_2] may be quite satisfactory in rendering E[e_1] (the very slight difference could be attributed to free variation). However, Polish speakers do not articulate the English allophone close enough; when asked to pronounce it in isolation, or to quote its quality in a minimal pair like e.g. *men* : *man* they have no difficulty in doing this correctly, but habitual correctness is very rare. Having been phonetically trained, the Polish informants (though not all of them and not always) do articulate E[e_1] as a sound closer than their P[e_1] but generally this closing is unsufficient.

This deficiency may lead to a phonemic error: substitution of P[e_1] results in it being interpreted by English listeners as E/ɛ/. In the case of Informant 6 (see Table 4) the percentage of this error is conspicuously high. On the other hand extreme closing leads to another phonemic error: Informant 5 was hypercorrect in his rendition of E[e_1]; his articulation of the sound was excessively close thus reaching an /i/ quality.

The lower variants of E/e/ seem to be less difficult for Polish learners. The degree of closing exercised by Polish speakers being unsatisfactory for E[e_1], is sufficient for E[e_2] and [e_3]. A closer articulation for E/e/ (compared to P/e/) however, must take place and has to be strongly insisted on. English listeners more readily identify and accept the lower variants performed by Polish speakers not only because P[e_1] is closer to these English sounds, but also because of distributional restrictions and redundancy, e.g. an attempted [ej] as in *hay* or *say* will not be identified as [ɛj] since such a diphthong does not occur in English; also, [ɛl] is very rare.

As to the interpretation of Polish speakers' rendering of E[e_1] and [e_2]

as /ɜ/, the English listeners based their judgements on the actual lengthening of these allophones. Careful auditory assessments do not prove that undue retraction took place in these cases. A typical example is Informant 8 whose

Table 4. Assessment of E[e₁] by English listeners

Uttered by	No of tests	Identified as /e/	/ɛ/	/ij/	/ɜ/	?
1	80	100%	—	—	—	—
2	80	77,5%	15%	—	2,5%	5,0%
3	80	87,5%	10%	—	—	2,5%
4	88	88,7%	4,5%	—	4,5%	2,3%
5	88	63,6%	6,8%	29,6%	—	—
6	78	61,5%	35,9%	—	—	2,6%
7	52	88,5%	11,5%	—	—	—
8	78	56,4%	23,1%	—	17,9%	2,6%
Total	624	Average 77,6%	13,1%	4,2%	3,2%	1,9%

attempted *hell* [hel] was interpreted as *hurl* [hɜl]. Unnecessary lengthening, however, is a deficiency which can be eliminated fairly easily. Yet a great deal of practice in raising all the variants and particularly E[e₁] has to be provided in order that Polish speakers of English learn to develop the habit.

Table 5. Assessment of E[e₁]

Uttered by	No of tests	Identified as /e/	/ɜ/	/ə/	?
1	80	95%	—	—	5%
2	80	97,5%	—	—	2,5%
3	80	92,5%	—	—	7,5%
4	88	100%	—	—	—
5	88	90,9%	7,6%	—	2,5%
6	52	96,2%	—	—	3,8%
7	52	96,2%	—	—	3,8%
8	78	28,2%	48,7%	10,3%	12,8%
Total	598	Average 86,6%	7,4%	1,3%	4,7%

The results of the listening tests shown in Tables 5 and 6 only confirm that insufficient closing is most harmful in the case of E[e₁], while with the low variants it does not necessarily lead to phonemic errors.

5. Polish speakers often substitute their /e/ for E/ɛ/. The experiment with the Polish informants confirmed that this English phoneme is extremely hard to master, and all informants had some difficulty with it. As a rule, Polish speakers of English tend to use P/e/ for E/ɛ/, while slight lowering from the

P[e$_1$] position is sufficient to acquire an /ɛ/ quality. The advanced RP /ɛ/ is actually very similar in quality to P/e/ so Polish speakers do not hear a phonemic difference. On the other hand, they seem to be reluctant to give it an open quality lest it should sound a-like.

Table 6. Assessment of E[e$_1$]

Uttered by	No of tests	Identified as /e/	?
1	80	100%	—
2	80	95%	5%
3	80	100%	—
4	88	100%	—
5	88	100%	—
6	78	97,4%	2,6%
7	52	100%	—
8	78	89,7%	10,3%
Total	624 Average	97,8%	2,2%

Of the two variants of E/ɛ/, the main one has better "chances" with Polish speakers. At this point, it is worth noticing that Polish speakers' attempted E[ɛ$_1$] (even if actually being P[e$_1$]) is more readily "correctly" identified by English listeners in the diphthong [ɛə] than elsewhere. In words like *had* [hɛd] and *hair* [hɛə] there occurs the same variant of /ɛ/, yet the phonetic environment makes the English listener "hear" it as /ɛ/ rather than /e/, i.e. he hears what he "wants" to hear because of an obligatory choice. However, in cases when Polish speakers fail to produce the diphthong and only lengthen the vowel, its mere lengthening influences the English listener to assess it as /ɜ/ thus hearing e.g. *hair* as [hɜ].

Table 7. Assessment of E[ɛ$_1$]; *had, dam*

Uttered by	No of tests	Identified as /ɛ/	/e/	/ɜ/	?
1	80	95%	2,5%	2,5%	—
2	80	10%	90%	—	—
3	80	27,5%	72,5%	—	—
4	88	50%	50%	—	—
5	88	22,8%	77,2%	—	—
6	78	61,5%	20,5%	10,3%	7,7%
7	52	15,4%	84,6%	—	—
8	78	23,1%	71,8%	5,1%	—
9	80	25%	62,5%	12,5%	—
10	80	62,5%	37,5%	—	—
Total	784 Average	40%	56,1%	3,1%	0,8%

Table 7b. Assessment of E[ɛ₁] in the diphthong [ɛə]

Uttered by	No of tests	Identified as /ɛ/	/ə/	?
1	80	77,5%	22,5%	—
2	80	100%	—	—
3	80	100%	—	—
4	88	84,1%	4,5%	11,4%
5	88	90,9%	6,8%	2,3%
6	78	43,6%	51,3%	5,1%
7	52	96,7%	—	3,8%
8	78	2,6%	46,1%	51,3%
9	80	97,5%	—	2,5%
10	80	95%	2,5%	2,5%
Total	784 Average	76,4%	16,3%	7,3%

Table 8 below shows all too clearly that the substitution of P/e/ for E[ɛ₂] results mainly in English listeners assessing it as E/e/ (precisely, as [e₂] since it is [*el*]). This conforms with the results shown in Table 5: P/e/ substituted for E[e₂] results in assessing its quality as required. Thus the figures given in Table 8 support the statement that Polish speakers use P/e/ for E[ɛ₂].

Table 8. Assessment of E[ɛ₂], e.g. *Hal, pol*

Uttered by	No of tests	Identified as /ɛ/	/a/	/e/	/ə/	?
1	80	—	70%	2,5%	—	27,5%
2	80	—	—	85%	—	15%
3	80	2,5%	—	90%	—	2,5%
4	88	—	—	100%	—	—
5	88	2,3%	—	68,2%	—	29,5%
6	78	10,3%	7,6%	53,8%	—	33,3%
7	52	15,4%	—	—	—	84,6%
8	78	—	7,7%	—	64,1%	28,2%
Total	624 Average	3,5%	10,3%	53,2%	8,0%	25,0%

The result obtained for Informant 8 again shows his inclination for lengthening (cf. Table 5). Informant 1 articulates his attempted E[ɛ₂] too open thus giving the sound an /a/ quality.

6. As both E/a/ and P/a/ are of a front type, the English phoneme should not pose very serious problems for Polish learners. Nevertheless, assessments of the allophones used by Polish speakers for E/a/ lead to the conclusion that their articulations are too centralized and frequently raised too high. This, however, is not reflected in the results shown in Tables 9 through 12, but a

comparison of P/a/ and E/a/ predicts it: the English listener associates P/a/ almost always with his own E/a/ and not with /a/.

Table 9. Assessment of E[a_1] e.g. *huddle*

Uttered by	No of tests	Identified as /a/	Identified as ?
1	80	97,5%	2,5%
2	80	100%	—
3	80	100%	—
4	88	90,9%	11,1%
5	88	95,5%	4,5%
6	78	100%	—
7	52	100%	—
8	78	100%	—
Total	624 Average	97,2%	2,2%

As P/a/ is an open vowel it could be identified with the other English open vowel, i.e. with /a/. However, the problem is resolved not so much by qualitative but by quantitative differences between the two English vowels. Although Polish speakers often centralize E/a_1/, its shortness prevents English listeners from assessing it as /a/. This situation, however, does not recur in the case of E[a_2]. It has been noticed on numerous occasions that Polish speakers tend to lengthen English vowels before dark [*l*]. Retracting, which is concomitant in this case, is also often excessive with Polish. In the case of E[a_2] unnecessary lengthening and excessive retraction occurs in its articulation by Polish speakers (see particularly Informant 4, Table 10). In effect, the uttered sound has a distinctive /a/ quality and this results in a phonemic error.

Table 10. Assessment of E[a_2], e.g. *hulk*, *bulk*

Uttered by	No of tests	Identified as /ɐ/	/a/	/ɔ/	?
1	80	95,0%	—	—	5%
2	80	92,5%	—	—	7,5%
3	80	37,5%	45%	—	17,5%
4	88	15,9%	61,4%	6,8%	15,9%
5	88	90,9%	2,3%	2,3%	4,5%
6	78	74,4%	—	—	25,6%
7	52	96,2%	3,8%	—	—
8	78	46,2%	35,9%	10,3%	7,7%
Total	624 Average	67,7%	19,2%	2,2%	10,9%

E[a_3] and [a_4] are not satisfactorily articulated by Polish speakers. E[a_3], being the closest to P[a_1], could be substituted by the Polish sound creating no phonological problem, yet with some Polish speakers the attempted English

allophones are quite often raised from the fully open position and also retracted. This tendency can be explained through the influence of the segments following [a] within the diphthongs. This is especially strong in the diphthong [aw] followed by [*l*]; [a_4] is assessed differently in [aj] and in [awł], and in order to illustrate the difference, the results for this allophone are shown separately in two tables. E[a_4], being almost fully front and distinctly different from P/a/, is particularly susceptible to this kind of distortion. Careful attention has to be paid to fronting E/a/ by Polish learners; otherwise they substitute their centralized P/a/ and, in effect, they sound foreign, or else they adopt a mannerism which can result in phonemic errors (see Informant 4, Tables 10 and 12).

Table 11a. Assessment of E[a_4] in [aj], *e.g. hide*

Uttered by	No of tests	Identified as /a/	/ä/	?
1	80	100%	—	—
2	80	75%	—	25%
3	80	100%	—	—
4	88	93,2%	2,3%	4,5%
5	88	100%	—	—
6	78	100%	—	—
7	52	100%	—	—
8	78	82,1%	10,3%	7,7%
Total	624 Average	93,6%	1,6%	4,8%

Table 11b. Assessment of E[a_4] in [awł], *e.g. howl*

Uttered by	No of tests	Identified as /a/	/ä/	/o/	/w/	?
1	80	97,5%	—	—	—	2,5%
2	80	62,5%	—	—	25%	12,5%
3	80	—	—	7,5%	80%	12,5%
4	88	68,2%	2,3%	6,8%	2,3%	20,4%
5	88	95,5%	—	—	—	4,5%
6	78	74,4%	—	—	20,5%	5,1%
7	52	65,4%	—	—	30,8%	3,8%
8	78	82,1%	—	—	5,1%	12,8%
9	40	82,5%	—	—	12,5%	5%
10	40	87,5%	—	—	5%	7,5%
Total	784 Average	71,9%	0,3%	1,5%	17,3%	8,9%

7. E/ä/ is rendered by Polish speakers by quite a wide variety of open sounds ranging from central to fully back. Polish speakers are well aware that their P/a/ is unlike E/ä/ and, in most cases, they make an effort to produce a sound which should be more in the back and thus, perhaps even instinctively, they move the tongue back from the position for P/a/. The problem is

that, in doing this, they often go too far back, sometimes even arriving at the position for C[ɑ]. This, however, is not necessarily harmful, but the danger exists that such an articulation may result in it being assessed as E/ɔ/. The

Table 12. Assessment of [ɑ], e.g. *how*

Uttered by	No of tests	Identified as /ɑ/	/ɔ/	?
1	80	92,5%	—	7,5%
2	80	97,5%	—	2,5%
3	80	97,5%	—	2,5%
4	88	4,5%	72,7%	22,7%
5	88	90,9%	—	9,1%
6	52	88,4%	—	11,6%
7	52	100%	—	—
8	78	97,4%	—	2,6%
9	80	95,0%	—	5,0%
10	80	97,5%	—	2,5%
Total	758 Average	84,7%	8,4%	6,8%

fact that English listeners do not assess such extreme cases with /ɔ/ is due to the length that Polish speakers apply then. Fortunately, this is usually done correctly. If they fail to make this lengthening their attempted [ɑ] is readily identified as an /ɔ/ vowel.

It is worth noticing that English listeners never assess Polish speakers' /ɑ/ with E/ɑ/ which only confirms that Polish speakers do not substitute P/ɑ/ for E/ɑ/. Attention has to be paid to make sure that Polish learners of English articulate the English sound with just sufficient retracting of the tongue from the position for P/ɑ/.

Table 13. Assessment of E/ɑ/, e.g. *hard, laugh*

Uttered by	No of tests	Identified as /ɑ/	/ɔ/	?
1	80	100%	—	—
2	80	95%	5%	—
3	80	90%	2,5%	7,5%
4	88	97,7%	2,3%	—
5	88	97,7%	—	2,3%
6	78	92,3%	5,1%	2,6%
7	52	92,3%	7,7%	—
8	78	100%	—	—
9	80	95%	—	5%
10	80	97,5%	2,5%	—
Total	784 Average	95,9%	2,3%	1,8%

8. The evidence collected points to the fact that the articulation of the allophones of E/ɔ/ by Polish learners is not open enough. Actually, it is esti-

mated that in at least half of the examined cases there is simple sound substitution. This English vowel proves to be very difficult to Polish speakers; its pronunciation differs considerably from P/o/, E/ɔ/ being of a very open nature and having very slight lip rounding. It is clear that Polish speakers hold to their own articulatory habits in pronouncing E[ɔ] as giving it a very open value suggests to them that it is quite a different phoneme, viz. /a/ (E/ɔ/ is normally associated with /o/).

Also, Polish back vowels are always rounded, so unrounding a back vowel (E/ɔ/ is just slightly rounded) seems to be a violation of their articulatory habits. Thus, in articulating E/ɔ/ sounds Polish learners do not open them nor do they fully round them. However, in spite of this incorrect articulation, English listeners identify those sounds as their E/ɔ/. This is so because they, too, always identify P/o/ with E/ɔ/.

Table 14. Assessment of E[ɔ$_1$], *e.g. had, rock*

Uttered by	No of tests	Identified as /ɔ/	/o/	/a/	?
1	40	100%	—	—	—
2	40	100%	—	—	—
3	40	100%	—	—	—
4	44	75%	6,8%	18,2%	—
5	44	100%	—	—	—
6	39	100%	—	—	—
7	26	100%	—	—	—
8	39	92,3%	—	—	7,7%
9	40	100%	—	—	—
10	39	97,4%	—	—	2,6%
Total	391 Average	96,2%	0,8%	2%	1%

E[ɔ$_2$] is closer than [ɔ$_1$] and thus closer to P/o/. Apart from the reasons mentioned in connection with [ɔ$_1$], the allophone [ɔ$_2$] was 100% identified correctly probably because of its distribution (in the falling diphthong [ɔj]). There could not possibly be a confusion with [aj] or [uj] as they are phonetically too different from one another.

9. E/o/ seems to give Polish speakers considerably less trouble than E/ɔ/. Although the results given in Table 15 show quite a wide "dispersion" of the phoneme, the percentage of correct articulations is very high. E/o/ is easier for Polish speakers to learn than E/ɔ/, as raising the tongue from the position for P/o/ seems to be much easier for them than lowering it. Further, lip-rounding is the same for E/o/ as for P/o/ so Polish speakers do not have to learn this feature. Table 15 shows that only two informants have serious trouble with E/o/. Their mispronunciations, however, could have easily been predicted:

substitution of P/o/ for E/ɔ/ (insufficient closing and no lengthening) results in a phonemic error, the sound being identified as E/ɔ/; absence of lengthening (accompanied by closing) may give an /u/-quality to the English ear (*cf.* Gimson (1970 : 115)): Informant 3's attempted *heard* was identified as *who'd*; lengthening with no closing results in assessing it as E/ɑ/.

Table 15. Assessment of E/ɔ/, e.g. *Heard, caught*

Uttered by	No. of tests		Identified as /ɔ/	/ɑ/	/u/	/ʌ/	*
1	80		100%	—	—	—	—
3	80		55%	27.5%	7.5%	—	10%
4	88		50%	9.1%	15.9%	9.1%	15.9%
5	88		93.2%	—	—	2.3%	4.5%
6	78		87.2%	—	—	—	12.8%
7	32		73.2%	3.8%	—	3.8%	19.2%
8	78		87.2%	2.6%	—	2.6%	7.6%
9	80		87.5%	5%	—	—	7.5%
10	88		95.3%	—	—	—	4.5%
Total	712	Average	81.1%	5.6%	2.8%	1.9%	8.7%

10 The comparison of P/u/ with E/u/ showed that the two phonemes differ considerably. P/u/ is a true close-back vowel while E/u/ is half-close and strongly centralized from back. All the tests have proved that Polish speakers are unwilling to depart from peripheral tongue positions to learn sounds articulated in other, i.e. non-peripheral, positions. For this reason they fail, in most cases, to attain the required tongue positions for E/u/ thus failing to produce its allophones with correct phonetic quality. All four allophones of E/u/ rendered by Polish speakers are far from satisfactory. Mastering the main variant, however, could contribute greatly to improving the whole phoneme, especially as [u$_1$] surpasses the other variants in its frequency of occurrence and as it is permissible to disregard [u$_4$] altogether.

Apart from the adherence to peripheral positions (particularly to back) in articulating E/u/ sounds, Polish speakers tend to lengthen them unnecessarily, especially before lenis consonants. This might be understood as a different realization of the diphthong [uw] ([u:] and [uw] being in free variation), but otherwise such lengthening leads to phonetic errors (e.g. *good* being pronounced as [gu: d]).

E/u/ and P/u/ are the only vowels in the close-back region in their systems and this necessitates identifying them with each other. Thus, phonemic identification (and pronunciation) errors are generally not to be expected and this, in fact, is shown in the English listeners' assessments. The attempted [u$_4$], [u$_3$] and [u$_5$] were identified by them 100% correctly with E/u/. (Tables

for these allophones are not given then). In conclusion, it can be said that Polish speakers of English do not generally differentiate between the allophones of E/u/ and use one sound to render the whole phoneme which they articulate almost fully back, though slightly lowered from the position for P/u/.

Table 16. Assessment of E[u_1], *e.g. hood, put, rook*

Uttered by	No of tests	Identified as		
		/u/	/ʊ/	?
1	80	100%	—	—
2	80	93,8%	—	6,2%
3	80	97,5%	—	2,5%
4	88	93,9%	2,3%	6,8%
5	88	98,9%	—	1,1%
6	78	97,4%	—	2,6%
7	52	100%	—	—
8	78	97,4%	—	2,6%
9	80	96,3%	1,2%	2,5%
10	80	97,5%	—	2,5%
Total	794 Average	96,9%	0,4%	2,7%

11. As E/ɔ/ is a new sound with completely unfamiliar quality it proves to be very difficult to Polish learners. On the whole, its variants are usually well articulated in its mid plane but they are rarely centralized properly. Thus, [$ɔ_1$] is in most cases fronted, which gives it an /ɛ/ quality. This fronting conforms to predictions: E[$ɔ_1$] is customarily identified by Polish speakers with P/ɛ/. In cases when [$ɔ_1$] is not extremely fronted but somewhat kept central its identity is preserved owing to its length: if Polish speakers fail to lengthen it, English listeners identify it with /ɛ/ or with /ɛ/ (and not with /ɔ/, which further shows that the sound is fronted, and not centralized). A striking phenomenon is the tendency of Polish speakers to use a front type sound for final stressed /ɔ/ and to centralize it through a diphthongal glide, *e.g. occur* [ə'kɜ], *deter* [di'tɜ] are realized by them as [ə'kɜə], [di'tɜə]. This proves they are aware that /ɔ/ is not a front vowel and try to achieve de-fronting by this rather curious means. On the other hand the diphthongizing also shows they hear that the vowel is long.

Concerning the articulation of [$ɔ_2$] Polish speakers articulate the sound contrary to what one might expect. This allophone is of a front type and Polish speakers might be expected to tend, at least, to front it. However, this is not so and they centralize [$ɔ_2$] much more than [$ɔ_1$], very often reaching the back area and articulating it with an /ɔ/ quality. The English listeners identified all these cases phonemically with /ɔ/ because the diphthong /ɔɪ/ has a number of variants within RP, its first element ranging from front to back (cf. Gimson (1970: 133)). Concerning Informants 5 and 6 it is rather unusual

that they should articulate their [ɜ₁] so very open thus giving an impression of an open vowel instead of a mid one (however, outside RP, the diphthong may be realized so, see Gimson (1970: 134)).

Table 17. Assessment of E[ɜ₁], e.g. *heard, word*

Uttered by	No of tests	Identified as				
		/ɜ/	/e/	/ɛ/	/ɛɔ/	?
1	80	97,5%	—	—	—	2,5%
2	80	75,0%	2,5%	2,5%	2,5%	17,5%
3	80	67,5%	5,0%	17,5%	—	10,0%
4	88	31,8%	54,5%	4,5%	2,3%	6,8%
5	88	77,3%	6,8%	2,3%	9,1%	4,5%
6	78	100%	—	—	—	—
7	52	30,8%	38,5%	—	15,4%	15,4%
8	78	100%	—	—	—	—
9	80	82,5%	5,0%	5,0%	2,5%	5,0%
10	88	86,4%	6,8%	—	—	6,8%
Total	784 Average	76,8%	11,5%	3,3%	2,8%	6,6%

The retraction towards the back area noticed with [ɜ₂] is still stronger with [ɜ₃] (which is natural as it is affected by [*l*]).

Table 18. Assessment of E[ɜ₃], e.g. *hoe, toe*

Uttered by	No of tests	Identified as		
		/ɜ/	/ə/	?
1	80	87,5%	—	12,5%
2	70	100%	—	—
3	80	100%	—	—
4	88	95,5%	—	4,5%
5	88	66,4%	27,3%	11,4%
6	78	53,8%	20,5%	25,6%
7	52	96,2%	—	3,8%
8	78	94,9%	—	5,1%
9	60	90,0%	—	10,0%
10	88	93,2%	—	6,8%
Total	762 Average	86,6%	5,2%	8,1%

12. The tendency of Polish speakers to front English central vowels is seen again in the case of /ə/ which was identified by English listeners as sometimes /e/ or /ɛ/. It is worth noting at this place that they never identified it as /i/; for example, members of such minimal pairs as ***aggresive*** (ə/'gresiv/: ***egressive*** /i/'gresiv/, ***centred*** /'sentəd/: ***scented*** /'sentid/, ***bordered*** /'bodəd/: ***boarded*** /'bodid/ were not confused with each other. This indicates that the Polish speakers have learned to obscure the vowel successfully. In fact, Polish speakers realize

E/ə/ much better than E/ɜ/. The relatively high percentage of correct identifications for /ɜ/ was due in many cases to its length rather than quality. Polish speakers' /ə/, however, was identified as such mostly through its proper quality.

Table 19. Assessment of E[ɔ₁], e.g. *hole, old*

Uttered by	No of tests	Identified as /ɜ/	/o/	?
1	80	100%	—	—
2	80	100%	—	—
3	80	100%	—	—
4	88	79,5%	18,2%	2,3%
5	88	97,7%	—	2,3%
6	78	100%	—	—
7	52	100%	—	—
8	78	100%	—	—
9	80	100%	—	—
10	80	97,5%	—	2,5%
Total	784 Average	97,2%	2%	0,8%

Of all the three variants of the phoneme, the Polish informants produced [ɔ₃] best, and the English listeners identified it correctly in 100% of the cases. The main variant [ɔ₁] was very often kept well within the central area though tending to be fronted towards either /e/ or /ɛ/ (see Table 20 below).

Table 20. Assessment of E[ɔ₁]: e.g. *woman, gentleman , aggressive*

Uttered by	No of tests	Identified as /ɔ/	/e/	/ɛ/	?
1	80	90,0%	10,0%	—	—
2	80	87,5%	10,0%	—	2,5%
3	80	77,5%	5,0%	12,5%	5,0%
4	88	59,1%	27,3%	6,8%	6,8%
5	88	72,7%	18,2%	2,3%	6,8%
6	78	94,9%	2,6%	—	2,6%
7	52	53,8%	19,2%	11,5%	15,4%
8	78	71,8%	17,9%	5,1%	5,1%
9	80	80,0%	15,0%	2,5%	2,5%
10	80	85,0%	7,5%	—	7,5%
Total	784 Average	77,8%	13,3%	3,8%	5,1%

The open variant [ɔ₂] was always identified as /ə/ and its quality was on the whole satisfactory or, at least, acceptable. Nonetheless, a certain tendency to front it towards /ɛ/ can again be noted and its opening was often exaggerated giving an /a/ quality, which is commonly regarded by the English as affected

speech (cf. Gimson 1970: 125). Yet, such cases could not be identified as /a/ because this latter vowel does not occur in the final position, and thus the obligatory choice makes English listeners identify it as /ə/.

13. This section involves an attempt to enumerate the differences between the Polish and the English vowel systems drawn on a contrastive analysis. Since the orientation of this paper is pedagogical, attention is focused on differences between the two vowel systems from the point of view of the Polish learner of English. The number of differences given here does not claim to be exhaustive, but it may be sufficient for strictly practical, pedagogical purposes.

Difference 1. Sounds which constitute a phoneme in English but do not exist in Polish.

For example: mid-central sounds such as E/ɜ/ or /ə/ do not exist in Polish. Difference 1 demands the learning of a completely new phonological unit. Polish learners have to learn to identify and to produce sounds not used in their native speech (Haugen calls it "phonemic importation" (Haugen 1953: 394)). Learners are naturally inclined to identify the unfamiliar sounds of the learned language with their native sounds, so they have to be taught to differentiate between the foreign sounds on the one hand, and between the foreign and the native sounds on the other.

In some cases, however, a learner is able to differentiate contrastive foreign utterances in spite of incorrect substitutions. For example, Polish learners identify the English mid-central vowel /ɜ/ with their front half-open /e/ (they say the English sound as a sort of /e/), but speaking English they may use a somewhat rounded and centralized type of /e/. Although such a sound does not exist in English (nor in Polish) native speakers of English identify this sound "correctly" as their /ɜ/. In this situation, no phonemic error is made in spite of the existence of Difference 1.

In overcoming the difficulty involved by Difference 1 a distinction should be made between the cases caused by a phonemic error and those resulting from phonetic errors. Although, exercises are required in both cases, a considerably stronger emphasis is needed on the former.

Difference 2. Two sounds which contrast in English but do not contrast in Polish.

For example: sounds [A] and [B] occur in both languages; in English [A] is an allophone of /A/, and [B] is an allophone of /B/; in Polish [A] and [B] both are allophones of /A/.

This difference does not require that a Polish learner should learn a new sound, instead he has to learn a new use of a familiar sound. The differences that are allophonic in Polish have to become phonemic in English, which involves a splitting of the native phoneme. In other words, a new habit of

responding to familiar sounds has to be acquired. Difference 2 leads to under-differentiation, i.e. the learner will not hear differences between the contrastive utterances in English. This identification defect will cause pronunciation errors. It should be stressed here that problems created by Difference 2 should be eliminated as early as possible in the learning-process. This difference is generally acknowledged to be the most troublesome in foreign language learning (cf. Lado 1957: 15).

The equivalent phonemes P/e/ and E/ɛ/ can serve as an example of the problem in question. Of the two allophones of P/e/, [e_1] corresponds to E/ɛ/ but the raised variant [e_2] corresponds to E/e/. While E/ɛ/ and /e/ are in phonemic contrast, the two Polish sounds are only in complementary distribution. Thus the Polish learner, who uses his [e_2] only in a palatal environment, will have to learn to use this sound in a non-palatal environment, i.e. he has to learn a new distribution of a familiar sound.

Another example of Difference 2 are P/a/ versus E/a/ and /ɑ/. To the Polish listener the two English phonemes are only one phoneme since his P/a/ covers the areas of these two English phonemes.

Difference 3. Sounds which contrast in Polish but do not contrast in English.

Difference 3 is the reverse situation of Difference 2: sounds [A] and [B] occur in both languages; in Polish, [A] is an allophone of /A/, and [B] is an allophone of /B/; in English, [A] and [B] are both allophones of /A/.

This difference leads to over-differentiation: the Polish learner will hear more subtle phonetic differences in English than a native English speaker does. Over-differentiation, however, involves no phonological learning problems; just the opposite, it may help the Polish speaker to learn the correct allophonic pronunciation of English vowel.

The problem can be examplified by a situation in which Polish speakers learn E/ə/. This phoneme has at least two phonetically different allophones: an ə-like allophone [$ə_1$] that occurs when a word boundary does not immediately follow (i.e. in a non-final position), and an a-like allophone [$ə_2$] that occurs immediately before a word boundary. Examples: *mothers*=[ˈmaðə$_2$z], *mother*=[maðə$_2$]; *ordered*=[odəˈd], *order*=[odə$_2$]. Polish listeners normally identify these allophones as their own /e/ and /a/ respectively. Thus the sounds that are in complementary distribution in English are perceived by Polish speakers as contrastive ones.

Another example of Difference 3 is the case of E/i/. Its high variant [i_2] is identified by Polish listeners with P/i/, and the low variants with P/i/.

Difference 4. A constrast is perceived by the use of different distinctive features in Polish and English.

A contrast between two different sounds can by perceived by learners but they will make their judgements using different cues to those actually operating in the foreign language. This occurs in the case where, for example,

Polish learners are able to hear a difference between E/o/ and /ɔ/ but to them the difference is solely in length while actually it is the opposition of *open* versus *mid*. This phenomenon is called "perception of phonemic contrasts through non-phonemic sound-features" by Lado (1957 : 21), and "reinterpretation of distinctions" by Weinreich (1966 : 18).

Difference 5. The distribution of a given phoneme is more restricted in one language than in the other.

Distributional differences occur when phonetically similar sounds and similar relationships between the sounds exist in both languages, but the sounds occur in different environments in the two languages. Distributional differences can involve full phonemes or only allophones.

A phoneme may be restricted to some environments or positions, as in the case of P/i/ which does not appear after palatals nor initially (with the rare exception of its very name). On the other hand, /i/ does not normally occur after non-palatals. These restrictions often cause pronunciation problems for Polish learners of English, e.g. they will often be inclined to use their Polish phoneme /i/ to say [it] for the English pronoun *it* while they are expected to say rather [ɨt]. Moreover, in Polish it is obligatory to use /ɨ/ after /w/, the sequence /wi/ (spelt *li*) being impossible. Thus, Polish learners show a tendency to use low variants after /w/ instead of the high one — e.g. the word *week* may even be pronounced as [wɛk]. Another sequence which is used in English but not employed in Polish is diphthong+nasal+C and this is why such words as *only*, *nineteen*, *mountain*, etc., are very often mispronounced as: ['ōlɨ], ['najtin], ['mawtɨn].

Difference 5 may result in a learning problem because a language learner has to learn a new use of a familiar sound in unfamiliar environments. This learning process is called "phonemic redistribution" by Haugen (1953 : 394).

Difference 6. Phonetically similar allophones have different distributions in Polish and English.

An example of Difference 6 is the case of the raised variant of P/e/, i.e. [e_2], and the main variant of E/e/. Because P[e_2] is complementary in Polish (it occurs only in a palatal environment) it causes a serious pronunciation problem for the Polish learner, but it does not cause an identification problem. This difference requires pronunciation exercises aimed at learning a new distribution of a familiar sound.

Difference 7. An orthographic symbol has different phonetic values in both languages.

All the differences mentioned earlier refer to contrasts between the phonological systems of Polish and English. However, identification and pronunciation errors may be caused by other differences than those concerning phonological categories. Among other factors the errors may be caused by differences in orthography. Such errors are best seen in the way English

borrowings are spelt in Polish, e.g. E ***computer*** is spelt (and pronounced) as P ***komputer***, and orthography has decided in this case that it is not ***kompjuter***. Another typical example is the word ***radio*** very often pronounced by Polish learners as E [redjo] which clearly shows that this pronunciation is afftected by spelling.

Difference 7 may be a problem only when English is taught through the orthography. The resulting problems are called "problems of spelling pronunciation" by Lado (1957 : 19). To overcome such difficulties learners should use phonetic scripts alongside the regular orthography.

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REVIEW

Phonology, meaning, morphology. On the role of semantic and morphologica criteria in phonological analysis. By Sölve Ohlander. Acta Universitatis Gothoburgensis. Gothenburg Studies in English No. 23. Pp. 221. Göteborg, 1976.

Reviewed by Edmund Gussmann, Catholic University of Lublin.

The main message of this monograph can be reduced to two statements; firstly, meaning must be taken into account in phonological analysis and, secondly, standard generative phonology has not addressed the question of criteria of morphemic analysis and hence, in assigning morphological boundaries, it has at times made unmotivated or arbitrary decisions. The former question is discussed in Part I entitled *Phonology and meaning* while the latter in Part II *Generative phonology and morphemic analysis.*

On the whole the monograph tends to be devoted to summarising earlier positions and levelling criticism against them with no attempt made at any analytic or descriptive presentation of some real-language material. Virtually no linguistic evidence is discussed or specific analyses presented and contrasted with possible alternative interpretations; at best the reader is offered a handful of Old English words, scattered sparingly throughout the book, but this can hardly qualify as linguistic evidence. Thus it must be stated at the outset that the level of argumentation is appalling, with trivial points inflated while vital issues are by-passed, discussed sloppily or not even identified.

As mentioned above large sections of the book are devoted to surveying selected positions vis à vis certain traditional issues and concepts (e.g.: the phoneme, distribution vs. function, simplicity, abstractness) often starting from scratch (e.g. meaning in linguistics). The result is often more reminiscent of a diligent student's notes for an introductory course in general linguistics or the history of phonology than of a piece of argumentative writing. Ohlander's study can thus be viewed as a golden treasury of well-worked, if not directly hackneyed arguments, accusations, and pronouncements which are familiar from numerous earlier works and which include such pieces of polemical demagogy as: 1) generative phonology as the comparative method (why the comparative method rather than internal reconstruction, one wonders); 2) formal simplicity is no good; 3) the ideal speaker-hearer is no good; 4) phonological representations as orthography; 5) excessive abstractness is not

psychologically real; 6) the more concrete position is verifiable; 7) the child as a little linguist; 8) the innateness hypothesis is untestable and hence should be abandoned; 9) the phoneme is fine because it is contrastive;10) external evidence should be used in phonology etc. Predictably enough, there is condemnation of underlying /x/ in *right* (one misses /œ̄/ in *boy*, though). The SPE type of phonology is accused of disregarding morphological considerations and unspecified claims for the "semiotic perspective" are thrown in for good measure. Most of all this is verbal overkill, pure and simple, which follows familiar paths, adds nothing new and merely succeeds in annoying the reader. Consider for example the following statement (p. 37) "That phonemes, on account of their semantic function, have psychological reality seems to me beyond question". That there may be different ways of accounting for the semantic function (i.e. differentiating meanings) by referring to the *systematic* levels (phonetic and/or phonological) is not even considered. Although in subsequent pages of his book Ohlander mentions practically everybody who put in a good word for the phoneme in recent years, whether published or not, he gives short shrift to Halle's arguments (as formalistic) and disregards others (see for example Anderson's (1974 : 36 ff) discussion and references therein). This bias is even more surprising in view of the fact that the phoneme plays absolutely no role in the scanty discussions of Old English phonology that Ohlander provides elsewhere in the book, with some proposals directly contradicting it (cf. the discussion of *fōn*, p. 124). Support for the phoneme seems intended to demonstrate Ohlander's interest in the psychological basis of language.

The concept of psychological reality, however, is used throughout the monograph as a mere catchword in a way which renders it utterly meaningless: something is or is not psychologically real (plausible, realistic etc.) because Ohlander asserts it is or it is not. While presumably important, the notion of psychological reality has proved recalcitrant both to describe and to apply in actual linguistic practice. The various modes of external evidence, normally taken to provide an entrance to psychologically real grammars, appear not only fragmentary and unreliable but also occasionally contradictory (Dressler (1977), Anderson (1979), Gussmann (1979), cf. also Dressler's (1979 : 95) remarks concerning what he terms the 'micro-anatomic fallacy'). Furthermore, nobody taking seriously the psychological basis of language can restrict his claims to the domain of phonology only but should, at the very least, also consider syntax and its regularities; the emerging notion should refer in equal measure to all aspects of linguistic structure. Unless this is done "psychological reality" is bound to remain a loose and impressionistic term.

The abstractness issue is treated in an equally slip-shod and apprioristic manner. Although judging abstract representations to be generally very

bad (as not psychologically real, relying on overall simplicity and indirectly resorting to innateness) Ohlander admits them when morphological alternations are available but not otherwise, e.g. the root of the Old English ***hlȳdan*** 'make noise' may contain an underlying /ū/ because of the form ***hlūd*** 'loud', whereas ***hȳdan*** 'hide' must be set up with the root /ȳ/ because there is no alternant **hūd*. An analysis along these lines is claimed to semiotically attractive, psychologically real and non-abstract. In Ohlander's own words (p. 124) "Such a phonology thus embodies the claim that it is only on the basis of individual allomorphy, in whose determination semantic considerations are inevitably involved, that speakers set up underlying representations that are not identical to surface forms". Let us note that Ohlander provides absolutely no external data to show that alternating and non-alternating morphemes make up different classes for the speaker and his psychologically real grammar; were this division to be as important as Ohlander claims, the evidence supporting it should not be hard to come by. Nothing of this sort is offered and the principle itself is immediately relaxed to allow abstract representations of non-alternating morphemes when the rule involved can claim a high degree of Kiparskian transparency (thus Old English ***beald*** 'bold' is set up underlyingly as /bald/ and a synchronic rule of breaking is admitted into the phonology of the language). This is a perfectly legitimate approach to phonology which should be evaluated in its own rights; the crucial point is that it is based on a separation of alternating and non-alternating morphemes and is consequently as formalistic as an approach that adopts no such division. The psychological reality claim has not been substantiated and remains merely a piece of mystification.

The last quotation also summarises Ohlander's view of the role of semantic considerations in phonology, purportedly the central theme of the monograph: recognition of two (or more) forms as alternants (allomorphs) requires that they be assigned the same phonological representation. In other words "semantic considerations may affect the phonological description of a language, by way of morphemic analysis" (p. 135). As formulated, the role of meaning — via morphemic analysis — refers to the way of arriving at a description or to discovery procedures, as Ohlander unabashedly admits, (p. 97) "... morphemic analysis is a *discovery procedure* for the determination of synchronic relatedness at the morpheme level". Let us assume that some sort of procedure might be constructed to determine that, say, the different inflectional forms of a given word contain the same root morpheme. Let us charitably disregard all the unspoken assumptions that such a statement involves; if applied it might perhaps yield /fanxan/ as the underlying representation for the Old English infinitive ***fōn*** 'take' — a form adopted by Ohlander (p. 124), which is strange coming from somebody who staunchily defends the psychological reality of the taxonomic phoneme and decries

phonological abstractness... Nothing is said about establishing relatedness, or its absence, between somewhat more controversial pairs such as, for example, *car — carry, ease — disease, sit — seat*; it is clear that any such procedure would demand not only some well-articulated language of semantic description but also the delimitation of the degree of similarity and difference among words which appear to share some common morphemes before these common morphemes could be called allomorphs. Needless to say, no adequate semantic or lexical theory is in the offing and, to make things worse, no delimiting procedure of the required type seems theoretically possible: the existence of onomasiological derivatives (like *cracker, goatsucker, leaflet*) clearly precludes any operational establishment of the semantic boundaries for word-relatedness. Derivational morphology amply illustrates this problem; consider the range of meanings associated with the Polish root *ręk* -'hand' in the following set of words where the English glosses additionally bring out the semantic differences:

ręka 'hand', ręczny 'id. adj.', wręczyć 'id. vb.',
poręczny 'handy', wyręczyć 'help sb out', rączka 'small hand',
ręcznik 'towel', poręczyć 'guarantee, warrant vb.', rękaw 'sleeve',
rękawica 'glove', poręcz 'handrail', zaręczyć się 'get engaged to be married', obrączka 'ring'.

Similarly, a wide (unpredictable) range of meaning may arise when a specific suffix is added to different bases, as the Polish suffix *-nik* illustrates quite dramatically in the following pair of examples:

dzień 'day' + nik→ dziennik 'news bulletin: a daily'
noc 'night' + nik→ nocnik 'chamber pot'

Establishing semantic relatedness in a principled manner is a notoriously complex enterprise; in a way which is perhaps not untypical of those arguing vehemently in favour of meaning in phonology (see Harris 1979 : 285) Ohlander, with gay abandon, speaks about semantic considerations, semantic contrasts, semantic structure, total synonymy etc. as if these terms were uncontroversial or at least generally established. To be meaningful, all of these terms need to be related to lexical units on the one hand and to primitive semantic elements on the other. Ohlander's monograph might have served some purpose if he had at least identified the problems. As it is, he offers the reader the thin gruel of morphemic analysis which he concocts in the final chapter of his book, its main ingredient being a division of suffixes into primary and secondary.

It is clear that morphological relatedness and hence also morphological boundaries cannot be established by means of morphemic analysis viewed as a discovery procedure. Questions of this sort belong to the domain of morphology and, in particular, word-formation which, within the generative framework began to be studied in the early 1970's. Ohlander's monograph

has nothing to offer to this field. Its values (by default) and also the point of reviewing it here is to stress the relevance of morphology (including word formation) to phonology and also of phonology to morphology; it is totally incomprehensible why Ohlander ridicules the latter possibility (p. 142 ff) in his discussion of some words which, on the SPE analysis are assigned morphological boundaries on the basis of the stress pattern they exhibit. Quite apart from the fact that Ohlander offers no alternative interpretation of the same data, the rejection of the possibility that the system as a whole may decide individual (unclear) examples runs counter the position he adopts in the "phonemic section" of the book when he claims that 'whether or not two semantically identical forms are also phonologically identical, i.e., related, can only be determined by considering the overall phonological system of the language in question' (p. 79). Justification of boundary placement is a complex interplay of the lexicon and *rules* of word-formation (as discussed, among others, by Halle (1973), Aronoff (1976), Booij (1977)), on the one hand, and the emerging, overall structure of a given language on the other. It remains to be seen what portion of morphological information is provided by the former and what by the latter source.

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NOTE

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English is now above all an international language, used or understood in most parts of the globe and in a great variety of circumstances. In today's world it serves as a means of expression and communication not only among people who have acquired it as their mother-tongue but – on an even more remarkable scale – with and among non-native users, whose mother-tongues are many and various: and this needs to be recognised in deriding upon the aims and procedures of teaching and learning. English as a world language does not 'belong' to mother-tongue speakers alone, but to all those who can make effective use of it.

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No kind of hostility towards any other language is intended by calling English a world language. Mankind has many instruments of expression and communication at its disposal, the English language being only one of these. We are concerned not with the promotion of English but with the promotion of better teaching and learning, with the circulation of practical ideas on English teaching, particularly those which arise from

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World languages, and not least English, can be viewed as means of international co-operation in a constantly changing world.

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